

REPORT
ON
VACCINATION PROCEEDINGS

THROUGHOUT THE

GOVERNMENT OF BENGAL



WITH AN APPENDIX

FOR THE YEAR ENDING 31st MARCH 1869.

BY

J. MURRAY, Esq., M. D.,

INSPECTOR GENERAL OF HOSPITALS, INDIAN MEDICAL DEPARTMENT



CALCUTTA:
OFFICE OF SUPERINTENDENT OF GOVERNMENT PRINTING,
1869.

INDEX.

INSPECTOR GENERAL'S REPORT TO GOVERNMENT ON VACCINATION ..	Page v
VACCINATION IN CALCUTTA AND THE SUTUBS, BY DR. CHARLES	vi
VACCINATION IN THE THREE METROPOLITAN CIRCUITS	v
FIRST METROPOLITAN VACCINE CIRCLE	vii
SECOND Ditto Ditto	viii
THIRD Ditto Ditto	ix
REPORT FROM THE SUPERINTENDENT OF VACCINATION, DARJEELING CIRCLE	xvi
Ditto Ditto Ditto, RANCHI CIRCLE	xii
Ditto LATE OFFICIATING DEPUTY SUPERINTENDENT OF VACCINATION, SONBHAI PILGUNNATH	xix
GENERAL RETURN OF VACCINATION FOR THE YEAR 1865	li
REPORT ON THE EMPLOYMENT OF SUB-ASSISTANT SURGEONS AS SUPERINTENDENTS OF VACCINATION BY DR. CHARLES	lvii
REPORT ON THE UNSATISFACTORY STATE OF THE ARRANGEMENTS FOR VACCINATION AS PRACTICED UNDER THE MURCHARTHS OTHER THAN THOSE OF THE TOWNS AND SUBTOWNS OF CALCUTTA, BY DR. CHARLES	lxi
REPORT ON THE NECESSITY FOR REGULATING THE PRACTICE OF SMALL POX INOCULATION IN BENGAL WHERE IT IS NOT CONTAINED BY DR. CHARLES —	
CHAPTER I — <i>General Considerations regarding Inoculation and Vaccination</i>	1
CHAPTER II — <i>Arguments for and against Inoculation</i>	5
CHAPTER III — <i>Regulation of Inoculation</i>	9
CHAPTER IV — <i>Further investigation concerning Inoculation necessary</i>	11

FROM

THE INSPECTOR GENERAL OF HOSPITALS,
• **INDIAN MEDICAL DEPARTMENT**

To

THE SECRETARY TO THE GOVERNMENT OF BENGAL

Port William, 22nd July 1869

SIR,

I have the honor to submit a report of the Circles of Vaccination under the Government of Bengal for the year ending 31st March 1869.

2 The following table gives an epitome of the whole work performed, there are slight discrepancies between the annual report of the Circles and the returns figured at the last page, resulting from the figures being drawn from different sources —

CIRCLES		Total		Total	
		Vaccinated		Successful	
SOUTH BENGAL	Residents in Calcutta	3 111	3 644	270	9311
	Residents in Suburbs	5 927	5 812	115	850
	1st Metropolitan Circle—Incl. Inland Railway from Howrah to Mugrah	32 108	31 737	361	98 87
	2nd Metropolitan Circle—Incl. North and South Hooghly District and adjacent parts of Burdwan	25 405	25 316	81	9111
	3rd Metropolitan Circle—Incl. 40 miles round Hooghly District and part of 24 Pargannas	70 563	70 282	281	1160
DARTFORD					
SOUTH BENGAL	Incl. Inland Circle Blair Phoot and District	11 533	11 313	5 170	8501
	Punjab District				
NORTH BENGAL					
SOUTH BENGAL	Incl. Inland Circle Hazratnagar Chyol and District	7 301	1 618	3 286	58 42
	Punjab District				
SOUTH BENGAL					
SOUTH BENGAL	Incl. Inland Circle Pakour Nulla &c	131	3 521	110	69 57
TOTAL		191 283	184 303	1 482	
Average of Successful Cases per cent					90.65

3 I must draw attention to the ratio of successful cases noted for the three metropolitan circles, each under the charge of a Sub-Assistant Surgeon as Superintendent of Vaccination, who, however, are superintended by Dr. Charles himself. Dr. Charles reports that, "as stated last year, I consider that vaccination, as carried on by the department, as far as relates to its success, may be considered to have practically arrived at attainable perfection." In a preceding paragraph Dr. Charles details the means adopted to ensure correctness

in these returns, yet their correctness is questionable, and a peculiarity that must be noticed is, that while residents in Calcutta show only a ratio of 98·10 per cent. of successful operations, those in the suburbs and metropolitan circles at a distance round show from 98·05 to 99·64.

4. The following table, of which the results agree more with my experience than Dr. Charles' high averages, is entered for the sake of comparison:—

Country.	Year.	RATIO OF SUCCESSFUL CASES per Cent.	
		By the Vaccine Establish- ment.	By Civil Surgeon and Vaccinators attached to Dispensaries
Punjab	1866 ...	94·74	72·3
"	1867 ...	95·01	75·7
"	1868 ...	95·94	72·96
Central Provinces	1867 ...	83·00	... ..
" "	1868 ...	79·34	80·26
Sumbulpore, C. P.	1868 ...	.....	93·87
Madras Presidency	1865 ..	83·46	
" "	1866 ...	86·39	
" "	1867 ...	89·58	
Bombay "	1866 ...	92·89	
" "	1867 ...	94·0	
Scotland	1866 ...	96·7	... ..
Parishes of England and Wales ...	1867 ...	98·9	... ..

{ Result of the Vaccination Act stated by
the Registrar General to be the highest
percentage attainable under any system
16th Report of the Poor Law Board. "This
proportion is above the average."

It would have been more satisfactory if Dr. Charles had given statistical tables of the work performed, as are appended to the other reports.

5. In the 5th to 9th paragraphs of his report, he urges the necessity of some measure of medical police for providing effective isolation, by legislature, of cases of small-pox occurring among the native inhabitants of Calcutta. If such a provision does not already exist in the municipal bye-laws, the necessity of some interference is required; the publication of the rules alluded to in Secretary to Bengal Government's letter No. 1411 of the 30th March last will be no safeguard against the contagion of the disease spreading.

6. The entertainment of the temporary establishment recommended by Dr. Charles in his 16th paragraph would doubtless be useful in extending vaccination if the increased work could be properly superintended.

7. Dr. Matthew's report of his work in the Darjeeling Circle is very creditable to him. He superintended 44,538 operations, of which the successful ratio per cent. was 88·00, a very fair result for the third year of the operations.

This circle, instituted in July 1866 as an experimental measure, may certainly be now stated to be a success. As years go on, the benefits of vaccination will become better known in districts where it is still looked upon with distrust. A reference to the last year's report shows, that for the year 1866-67, 12,125 operations were performed, with successful result in 82 per cent. In 1867-68 the number was 25,438, and successful percentage 89. The numbers during the year ending 31st March 1869 shows the great increase that has taken place.

8. It would certainly be an object not to pursue vaccination during the two most rainy months in the year, and the plan proposed by Dr. Matthew in his 5th paragraph should be adopted for the future.

It is satisfactory to notice that in nearly every part of the circle, the feelings of the people in regard to vaccination are becoming more enlightened.

9. By this Office Circular of 28th May, Civil Surgeons are instructed to send a report to the Superintendent of Vaccination of the Circle whenever small-pox breaks out.

10. The value of arm to arm vaccinations is evidently becoming more appreciated, and as operators get more expert and villagers more willing, a larger percentage of successful cases will be obtained.

11. In his 32nd paragraph, he desires an increment of pay to one of his Native Superintendents. These officials receive Rs. 20 a month in the working season and Rs. 16 a month at other times. In the next paragraph, he suggests power to give gratuities to vaccinators who have distinguished themselves by assiduity. I quite concur in his view and should be glad if some reward could be accorded to his men.

12. Dr. Matthew's remark on his circle being so short handed as to require four times the number of men already employed (30) will be alluded to further on.

13. Assistant Surgeon Hoskins, Superintendent of the Ranchee Circle, submits his second annual report.

It shows a total of 7,904 cases vaccinated, with a successful ratio per cent. of 58.42; last year the figures were 6,447, with successful ratio of 75.7.

14. The year's operations seem to have been accomplished with difficulty, owing to the heat of the weather and the ill health of the Superintendent, the troubles he experienced with his vaccinators, and the unwillingness, often amounting to resistance, of the villagers to accept the operation.

The way has now been paved in this circle for future operations, which under new superintendence and a more efficient staff of vaccinators, will, it is to

be hoped, prove^d more successful both in removing the prejudices of the zemindars and villagers and extending the protection against the disease.

15. Sub-Assistant Surgeon Gopal Chunder Dey, Deputy Superintendent of Vaccination, was employed in the Sonthal Pergunnahs during the year. This officer was temporarily sent from Calcutta to conduct the operations until the arrival of a Sub-Assistant Surgeon, who was employed in the Punjab. The pay received by the Deputy Superintendent of these Pergunnahs is the bare pay of his grade, with travelling allowances, and it is doubtful if a thoroughly efficient man is to be procured on these terms. I would strongly advise extra pay of Rs. 50 a month be granted to the Sub-Assistant Surgeon who superintends these operations.

16. The Sub-Assistant Surgeon states he performed 3,931 operations with his five vaccinators, in a few days during the month of April, with a successful ratio per cent. of 89.57. The Superintendent was a young man just entered the service, ignorant of the work, and he complains of the ignorance of the vaccinators. His returns must, therefore, be accepted with caution; but it is to be hoped that the evidence he gives of the feelings of the inhabitants towards vaccination is correct.

17. In the 2nd paragraph of the Resolution, dated 23rd January 1869, regarding my predecessor's report on vaccination for the year ending 31st March 1868, occurs these words. "It is hoped, however, that the circle system will before long cover the whole of the Lower Provinces, and bring the whole of this important duty into the hands of a properly organized and trained department relieved of all other duties."

18. At present I cannot consider the vaccination operations under the Government of Bengal in such satisfactory a condition as in the other provinces of the Presidency, and I am glad to learn, therefore, that there is a prospect of vaccination operations being extended. The mass of the population in Bengal Proper has at present less protection afforded to them than in any other part of India.

19. The Sonthal Pergunnahs and the Ranchee Circle might for the present remain as they are; but a revision of the Darjeeling Circle appears desirable. It now includes the districts of Darjeeling, Cooch Behar, Purneah (no operations performed there yet), Rungpore, Bhootan Dooars, Dinagapore, and Rajshahyè. In the Bograh District the work has been going on without any *specific* orders, but special orders were issued that as the work had begun it should not be stopped. The district of Maldah, Government says, is to be added eventually when the proper time arrives. I would submit that the proper time has now arrived for the consolidation of the above districts into one vaccination circle,

*

presided over by one Superintendent, and would beg to request the orders of Government on the subject. The present staff is—

- 1 Assistant Surgeon as Superintendent.
- 1 Sub-Assistant Surgeon as Deputy Superintendent.
- 3 Superintending Vaccinators.
- 30 Vaccinators.

Probably the addition of a second Deputy Superintendent and one or two Superintending Vaccinators would be required. The number of extra vaccinators would have to be decided after reference to the present Superintendent.

20. There remains the following divisions and districts to which no organized vaccination has been applied :—

Cuttack Division ; Burdwan Division (those portions which are not included in the Metropolitan Circles) ; Moorsshedabad District ; Dacca, Chittagong, Assam, and Patna Divisions, and part of Bhaugulpore Division. These are all as yet unprovided for.

21. The tables given at pages 51 to 56 show—

1st.—Summary of all the vaccinations performed in the Government of Bengal. Table A.

2nd.—A general return in a detailed form. Table B.

3rd.—The detail of the vaccinations in the Darjeeling, Sonthal Pergunnah, and Ranchee Circles. Table C. D. E. and F.

Table B gives the total amount of vaccination in the town and suburbs of Calcutta ; the numbers are very satisfactory and show the value of the Department. 71·3 the ratio per cent. of successful cases is of no comparative value in this case, for the reason given in the note. The statistics of the Metropolitan Circles are separately detailed in paragraph 2.

Table C shows the result of the work of vaccinators attached to Civil Stations and Dispensaries, by one, two, or three men at each, whose work is superintended by the Civil Surgeons of the Districts, and the Sub-Assistant Surgeons or Native Doctors in charge of Dispensaries ; but as the work of the vaccinators often lies at a distance from the head-quarters of the district, their work, as stated above, must be accepted with caution, especially as the Jail work prevents distant inspections. The returns from some of the stations are exceptional in so far as the number of successful operations are very large during the season, while in other places the operation is found to be unsuccessful and not without danger, such as the statistics from Hooghly, Midnapore, Rajshahye, Dacca, Mymensing, Seeksagor.

22. In the list, 14 out of the 63 stations will not be again included, as the vaccinators have been discharged, because the stations are now included in the several circles of vaccination.

REPORT

23. This table (C.) shows that in the stations, &c., named, 71,807 vaccinations were performed, of which 84.1 per cent. were successful against 67,011, with the same ratio of success in the year 1867.

24. In reviewing the wants of the province, I concur with Dr. Charles, who, in his 11th paragraph, suggests the appointment of a Superintendent General of Vaccination for Bengal Proper.

25. Two or more circles would have to be established, presided over by a Superintendent.

A circle is urgently required to be established for Eastern Bengal, the head-quarters of which should be at Shillong. This subject was first mooted by this Office in 1863, and a detailed plan was laid before your Government in No. 635 of 13th November 1865, to which the establishment of the Darjeeling Circle would appear to be a reply; the time has now arrived, I consider, for the completion of the scheme.

27. The vaccine lymph employed appears to have been good throughout all the operations. Arrangements have recently been made to ensure a regular supply of lymph annually from England, direct to each Superintendent General in the Presidency.

18. I append three reports of Dr. Charles, for the information of Government, in which he shows considerable skill in the treatment of the subjects. Yet, although his propositions are plausible, I should hardly consider them practicable.

These comprehensive views of vaccination for India are inapplicable where the means of carrying them out are scarce as compared with Europe, and where they have as yet proved ineffectual in eradicating the disease. This proposal to make some experiments with inoculation carried out by subsidizing native inoculators is both faulty in principle and wrong in application; the result of the operation is well known, and the subsequent prophylactic influence may be observed in thousands of the people who have suffered from the disease, which no one doubts being the same as that induced by the operation. Should it be considered advisable to try such experiments, more trustworthy agents than four vaccinators should be employed.

I have the honor to be,

SIR,

Your most obedient Servant,

JOHN MURRAY, M. D.,

Inspector General of Hospitals,

Indian Medical Department.

VACCINATION IN CALCUTTA* AND THE SUBURBS.

1. SINCE 1816 there has been a Superintendent General of Vaccination at the Presidency, whose duties consisted in supervising vaccination in Calcutta and in keeping up and forwarding to different parts of India a supply of vaccine lymph.

Before that date the officer who discharged these duties had a more extended sphere under his control, and seems to have exercised some sort of general superintendence over the whole of the vaccination taking place in the Bengal Presidency, including districts now under the Government of the North-Western Provinces.

No annual report seems ever to have been furnished before, and hence the present one has been called the first annual report.

Reports other than annual ones have been published from time to time. As early as 1805 the Government published a report written in 1804 by Dr. Shoolbred, from which it seems that 1,426 successful vaccinations took place in that year in Calcutta.

A report by Dr. Cameron was published "On Vaccination in Bengal in 1829."

Dr. Duncan Stewart's report on small-pox in Calcutta and vaccination in Bengal bears the date of 1844, and in 1850 Dr. Stewart as Secretary to the Small-pox Commissioners wrote their report.

In the Supplement to the *Calcutta Gazette* of the 17th January 1866 is published a "Special Report on the Presidency Vaccine Establishment, Calcutta, 1865." In addition to this report, I also addressed to the Government a "Second Special Report on the Presidency Vaccine Department, 1867." This report has never been published, and on its recommendations, which supported those contained in the previous report, for an increased and remodelled establishment, the present arrangements have been sanctioned.

In the following year a report was called for by the head of the Medical Department to enable him to report fully on the present state of vaccination in Bengal. The information was furnished under the title of "Third Special Report on the Presidency Vaccine Department." This was published along with a report by Dr. Green "On Vaccination Proceedings throughout the Government of Bengal Proper, 1868."

2. During the past vaccinating season the Superintendent of each of the three divisions has been changed. Two of the three Superintendents who previously held charge having been appointed to two of the new circles of vaccination in the presidency districts, have been replaced by two Sub-Assistant Surgeons who have been brought down from the Punjab and North-Western Provinces. A third vacancy caused by the removal of a Sub-Assistant Surgeon who proved himself unfit for the duties of a Superintendent of Vaccination, has also been filled by a Sub-Assistant Surgeon from the Punjab.

As it was not until early in January that the first of these new Superintendents arrived, and the last of them did not take over charge till the end of that month, the superintendence of the Calcutta vaccination was conducted during the first half of the season by the Superintendents who also held charge of the new circles of vaccination. As in previous reports I have had to dwell on the undesirable nature of this arrangement, I will not again refer to it, as by recently sanctioned arrangements the disadvantages pointed out will now no longer exist.

Baboo Bhobun Mobun Mitter joined his appointment on the 6th of January and has charge of the North Division.

Baboo Kalli Das Bose took charge of the Middle Division on the 14th January.

Baboo Kasseo Chunder Dutt was placed in charge of the South Division and relieved Baboo Jadub Chunder Ghose on the 31st January.

As these new Superintendents have so lately joined, it would be premature to speak fully regarding their qualifications.

They have already, however, given fair promise of their fitness for the duties entrusted to them. None of them are afraid of the hard work which has fallen to their share. Each of them recognizes the necessity for special exertion, and though they have already experienced personally the rebuffs and discouragements they will have to encounter, none of them has shown any symptom of faint-heartedness or of want of perseverance.

There seems every reason to hope therefore that after five years of work, should they continue to advance as they have begun, such an impression will be made on the people who have hitherto not accepted of vaccination as to leave Calcutta and its suburbs in a state of protection from small-pox such as it has never yet enjoyed.

3. During the past season the good effects of efficient supervision over the vaccinators has already begun to make itself felt in the improvement in the character of the vaccinations.

Character of the vaccination.
Numbers vaccinated.

Although the new Superintendents have been so short a time in charge, their presence at the time that the weather began to get hot and inflammatory results had to be guarded against, was most opportune.

Owing to their personal efforts, the vaccinators have been kept better in hand, and have therefore been more careful both in regard to their selection of virus and to the method of operating. Last year I had to comment upon shortcomings in respect to the character of the vaccination, and considering the influence which the absence of irritation and other unpleasant consequences exercises on the popularity which vaccination will ultimately enjoy, the improvement this year noted is a matter of some interest.

During the year from May to April inclusive, three thousand nine hundred and fourteen persons, residents of Calcutta, have been vaccinated, exclusive of cases of re-vaccination and cases in which the result was not ascertained. Of these, three thousand six hundred and forty-four cases have proved successful; the percentage of success here arrived at being 98.40. In the suburbs, excluding in the same way cases in which the result was not ascertained and re-vaccination cases, five thousand nine hundred and twenty-seven cases were vaccinated among the resident population, with a result of five thousand eight hundred and twelve successful vaccinations. Here the percentage of success has been 98.05.

Besides this, other persons not permanent residents have been vaccinated, but as the result does not bear materially on the protection of Calcutta from small-pox, such cases are separated to allow of a comparison being made year by year of the amount of protection afforded to Calcutta.

The numbers vaccinated in the town remain much the same as last year, while some advance has been made in the suburbs.

4. Calcutta has been this year visited by an epidemic of measles which has been widely spread through the city, and in many places seems to have affected almost every house. Just at the time that vaccination is most readily taken by the people, this epidemic had become very extensively diffused. Its presence in so very many houses at one time constituted a very formidable difficulty while endeavouring to get people to have their children vaccinated.

An epidemic of measles interfering with vaccination.

Not only were the children with the disease not available for the vaccinators to operate on, but as for long many of them remained in an indifferent state of health, the shortness of the vaccinating season precluded the possibility of vaccinating many who might otherwise have been protected. As might be expected, those averse to allow their children to be vaccinated, were not slow in urging the prevalence of the epidemic as an excuse; while many from timidity refrained from bringing their children forward, who under other circumstances would not have held back in the way they did.

5. In the appendix of last year's report this subject was treated at length in a separate report. The urgency for some arrangement which would place Calcutta in a position of security against small-pox, was brought forward. The subject of how these epidemics arose and spread was discussed, and after showing the facility with which small-pox epidemics could be prevented, attention was

The want of measures of medical police for arresting small-pox epidemics at their commencement.

drawn to the most necessary points on which legislative assistance was required. Among these the necessity for early notice of each case of small-pox as it occurred being furnished to the Superintendents of Vaccination and the necessity for some restrictions being placed on persons with small-pox to prevent them disseminating the disease to those around, were prominently dwelt on. As yet no steps have been taken to remedy the dangerous position of Calcutta which was then brought forward, and in spite of a whole special report having been devoted to the subject, the city remains in the same precarious condition in both respects as it did during the thirty-four years, upon the recorded deaths from small-pox during which I founded the remarks I had to make.

It has once fallen to my share to direct the operations of a vaccine establishment, through such a catastrophe from small-pox, as to make me shrink with no ordinary feeling of dread from having such a task to perform again. With the remembrance of the close on 3,000 deaths from small-pox which took place in February and March 1865 yet fresh before me, I may be permitted to urge in the most forcible terms that the necessity for legislation is one that urgently calls for attention. To illustrate the want which exists I bring forward a few of the instances with which this year has supplied me, in the hope that by having such instances before them the Government may be in a position to realize the danger in which Calcutta lies, and to feel that the remedy suggested is the only one to meet the exigencies of the case.

6. A syce in Dalhousie Street had this year an attack of small-pox, and before it was found out that he was affected he had communicated the disease to another syce.

Two cases illustrative of small-pox spreading to a second person for want of early notice to the Vaccine Establishment.

A woman named Bindoo Beharry residing in Palmer's Lane, Entally, went to Chander-nagore to see her daughter who had small-pox. On her return two days after leaving her daughter the fever of small-pox appeared and subsequently a confluent eruption was developed. She had communicated the disease to a child of eight before it came to light that she was suffering from small-pox and steps could be taken to prevent its spreading.

7. Two children residing in the Baniapooker Thannah were taken to a village named Punchna in the Selamabad Thannah in the Burdwan District. They got an attack of fever just before they returned, and soon after their arrival in Calcutta the eruption of small-pox appeared. It could not be traced how they caught the disease, but as they had to pass through country where inoculation was going on, and had come in contact with persons who could so infect them, it is not difficult to understand how they became affected.

A child from the village of Jabatty in the Monghyr District was brought to Sealdah, four days after its arrival in Calcutta small-pox appeared on it. The disease was reported to have been raging in the village when the child left.

An inhabitant of Kidderpore went to his village in the Khanakool Thannah in the Jehanabad Sub-division. While he was there his family were inoculated. On the 13th day of the inoculation he returned to Calcutta, and three days after his arrival he was seized with the initiatory fever of small-pox and subsequently the eruption developed itself.

The wife of a European living in Entally was seized with small-pox, but the source of the disease could not be traced.

A lad of fourteen living in Armenian Bazaar also got an attack of small-pox, the origin of which could not be traced.

8. A syce in the employ of a gentleman living in Dalhousie Street caught small-pox from another syce whose case is the first one that has been brought forward. Every endeavour was made to induce him to go to hospital, but he steadily declined to do so. Instead of isolating himself he went to a densely inhabited quarter and took a hut among a low class population, very many of whom were in an unprotected condition and who gave great trouble before they allowed themselves to be vaccinated.

Case exemplifying the necessity for a law to enforce isolation.

Such an occurrence as a servant refusing to go to hospital is not uncommon, it is also usual for them to hire a hut or a portion of a hut for a trifling sum and to set themselves down in a crowded locality to be the centre from which outbreaks of small-pox become disseminated. Servants are not the only class who thus become wilfully dangerous. It is

open to any vagrant or stranger in Calcutta so to conduct himself as to make it a work of great difficulty to prevent small-pox from becoming epidemic. Occasions also occur when those inhabiting lodging-houses ought for the public good to be removed to places provided for them by the public, where they will cease to be foci of danger to the public health.

9. It seems advisable to bring every one within the provisions of the law providing for isolation, as the great majority of the inhabitants of the metropolis could without any trouble save themselves from feeling the law a grievance.

Argument for legislative restriction.

Even in the case of those who would never require to be sent to a hospital, the law proposed would provide for the prevention of any glaring neglect in keeping themselves separate so far as to avoid becoming dangerous. All past experience of small-pox in Calcutta shows that such a law would effectually check the spread of small-pox without requiring to be put in operation on an average in the case of one person a month.

In estimating the value of the last statement, it must be borne in mind that the remark implies the exercise of a vigorous and unceasing vigilance in carrying out the law. For allow a score or more of small-pox cases to occur without being reported, and accord to a few of them the privilege of spreading the disease unrestrained which they now enjoy, and in the course of two months the multitude of cases to whom the law would extend and affect in a harsh and grievous manner, would have become such a formidable one, as by the mere force of numbers to render the law futile. A law providing for effective isolation becomes practically a dead letter in a crowded metropolis while it is being devastated by an epidemic. A few hundreds may be shut up in hospitals, similar numbers may be encouraged to keep themselves more or less secluded, but with regard to the masses of the population affected, the thousands suffering from small-pox, all action of the executive is practically paralyzed. When every quarter in Calcutta is overrun with small-pox, when every lane, alley, and bustee teems with scores of pestilence-stricken persons, the proposed law would fail so far in its objects, and affect so many interests, that it would not be warrantable, even were it possible, to force its provisions on the population. The proposals, however, are preferable to what they would be, even could they meet such a contingency, inasmuch as they entirely do away with the possibility of such a deplorable state of things ever again occurring. The crucial merit of such law lies in the fact, that by taking care of the few and by providing for their safe disposal, it protects the many from the danger by which they were menaced, without making them to feel in any way the incidence of the law.

VACCINATION IN THE THREE METROPOLITAN CIRCLES.

10. As previously explained in three Special Reports on the Presidency Vaccine Establishment, in 1863 an experiment was made, by means of the establishment sanctioned for Calcutta, to introduce vaccination into the surrounding country. The small-pox epidemic of 1864 was seized on as a favorable time for pushing the experiment farther, and a small temporary additional establishment of vaccinators was entertained. As detailed in the third Special Report, &c., these vaccinators were year by year temporarily entertained till finally the establishment was sanctioned as a permanent one. In September 1868 sanction was received for the formation of three circles of vaccination round Calcutta, in which these vaccinators were to work, superintended by three Sub-Assistant Surgeons, and the complete scheme originally placed before the Government in 1865 has now during the last vaccinating season been in active operation.

History of this Establishment.

11. In proposing the formation of these new circles, attention was drawn to the fact that general superintendence would require to be provided for them, and it was suggested that if the interests of the public service demanded that this duty should be undertaken by the Superintendent General at the Presidency, that he should receive some remuneration for the large amount of extra work thus thrown on him. As a temporary measure, he was directed to assume charge of the new circles, and an allowance of Rs. 300 per mensem was granted to him for this duty. As a permanent arrangement, a provision of Rs. 500 a month was made as the salary of a Commissioned Medical Officer as Superintendent. As the whole of this scheme has been originated by me, and, consequently, quite independently of the interest I naturally feel in it, the Government must in a manner hold me responsible for the success of the undertaking, I most respectfully seize on this as the first opportunity I have had for bringing the matter forward, and to urge the Government to reconsider the question of general superintendence.

General superintendence.

I am fully convinced that to appoint a young Medical Officer on such imperfect remuneration will be most fatal to the success of the undertaking. The responsibility involved and the constant attention required, together with the many *désagréments* inseparable from the appointment, render it one that no officer of any standing in the service would voluntarily accept. Even any young officer thrust into the appointment would take the first opportunity of resigning, as either the military service or the charge of the smallest civil station would gladly be accepted by him in preference to such a distasteful charge. The appointment which is required is that of a Superintendent General of Vaccination, similar to that in Bombay, Madras, North-Western Provinces and Punjab, which carries a salary of Rs. 1,050 and a Surgeon along with it. Such an officer would of necessity, in addition to exercising a general superintendence over these circles, also stand in the same relation to the vaccine circles at Darjeeling and Ranchee, and be the adviser of the Government on all vaccine matters connected with Bengal. Now that considerable sums of money are being spent on vaccination, it seems to be of importance that one head should direct the vaccination of the whole province. Certainly it will seem very strange to any critic who examines into the question a few years hence, that such diversity should exist in the arrangements for vaccinating in different parts of Bengal. If it is true, as strongly insisted on in the first Special Report on the Presidency Vaccine Establishment, that the Calcutta system is superior in many respects to that in practice elsewhere, it will be difficult for him to understand why the same system was not extended to other parts of Bengal, when new circles were formed, after many years of success had proved its efficiency at the Presidency.

12. In two of the circles the work of every vaccinator has been twice inspected during the season, and in the other circle each man's work has been thrice similarly looked into. The reason for inspecting one of the circles more often than the others was that on the two first occasions it was not found to be in such a satisfactory state as the others, owing to their Superintendent Baboo Sreenauth Mookerjee, as pointed out last year, having proved himself unfit for the duties of Superintendent.

Besides a personal inspection of the work performed by the vaccinators, the Superintendent General has every week seen each of the Superintendents, and made himself acquainted with the progress the work was making, and in conjunction with them all necessary arrangements have been made. The registers kept by the vaccinators have been examined and from time to time verified. The diary kept by each Superintendent has also assisted in furnishing data to provide for an effective general superintendence, while the crusts sent to Calcutta every week have served in a minor degree towards the same object.

13. The three Superintendents in charge of these new circles were previously in the same position in Calcutta, and each of them has had many years of experience in the work; not only so, but as they had worked for years under my general superintendence, they were thoroughly at home under my guidance, and throughout the season have zealously seconded me in every effort that has been made to ensure a thoroughly successful vaccinating season.

I beg to bring them prominently forward to the notice of His Honor the Lieutenant Governor of Bengal as most deserving of his approbation. Baboo Jadub Chunder Ghose has, as is usual with him, succeeded in getting more work out of his vaccinators than either of the other Superintendents. He has a special natural fitness for the hard and laborious life he leads, and his success in overcoming opposition has often excited my admiration. Baboo Buddynath Brummo has throughout kept his circle in the most perfect order. The vaccinations I saw in his circle might each have served as a model from which to describe what success a good vaccinator could arrive at, and the neatness and exactness of his diary and of any work required of him personally were most praiseworthy. At times he labored under great difficulties owing to many of his vaccinators being laid up with fever and owing to illness depriving him of their services at the time he required them most. The population among whom he labored, too, was a fever-stricken one, and one therefore requiring much exertion on his part to overcome their scruples in being vaccinated.

Baboo Ram Soonder Ghose rejoined the department on the 22nd January from Moorshebad, where he has been in charge of the dispensary. Owing to the unfitness of his predecessor Baboo Sreenath Mookerjee for the post of Superintendent, having allowed the vaccinators to become lax and careless, the duty which devolved on him of getting his circle into better order has been by no means a light one. His tact with the men, however, and the thorough knowledge he possesses of vaccination, have enabled him to effect a large measure of improvement, and by instructing the men who are still deficient during the hot season, I have every confidence that under his management the circle will next year prove as effective as either of the others.

14. Six of the nine men of this higher grade have given me great satisfaction. The other three who had not been so carefully trained and directed while under the superintendence of Baboo Sreenath Mookerjee, have had to be rather sharply dealt with for faults which they could easily have guarded against; but since they have been working under other superintendence, they have already begun to perform their duties more satisfactorily. Two of the head vaccinators under Baboo Jadub Chunder Ghose are old inoculators.

15. In consequence of death, resignation, and discharge for misconduct, 14 new vaccinators have been entertained since the 1st May 1868. All such changes are to be deplored, as the work of a young vaccinator falls far short, both in quantity and quality, of that which can be procured from old and trained hands. These changes tell more on a young establishment; and considering that the whole of the vaccinators have been recently entertained, every single change is felt as a disadvantage.

One cause of discharge has been the interference of the vaccinators with the women among whom they were working. Such a crime in a vaccinator must be met with summary dismissal from the service; as, independently of all other considerations, any distrust of the vaccinators on this score would make any population hostile to vaccination. It can easily be understood that on the small salaries available, only uneducated men can be induced to accept employment as vaccinators. Some of the men cannot write at all, while others write so badly that they cannot be allowed to keep up the registers. Arrangements have been made with the view of improving the education of those who stand most in want of it, and during the hot season classes have been formed which it is expected will so far improve the deficiency as to enable several of the vaccinators who cannot now do so to be of assistance in keeping up departmental records. An attempt has also been made to induce the vaccinators to avail themselves of the Savings Bank with the view of obtaining a hold of the men by raising their self-respect. At present, with a small salary and hard work, it is difficult to influence the men, as on slight provocation they show a tendency to seek for other employment in which the work will be lighter. With a nucleus for their savings once established, it is hoped that ultimately they may accumulate such little sums as to furnish them with incentives to remain in an employment in which such collections have been proved possible.

As mentioned in the third Special Report on Vaccination, during the hot months the pay of the vaccinators was reduced with the view of having a fund from which to reward those of the vaccinators who showed special diligence during the vaccinating season. So far the experiment was a success that its effect in stimulating the vaccinators to increased exertion was decided. The measure, however, gave rise to such a great amount of dissatisfaction that I should be most unwilling to put it again into operation. It proved not only extremely distasteful to the vaccinators, but each of the Superintendents was strongly opposed to it. On these grounds, I feel it incumbent on me to relinquish this mode of paying for a greater amount of efficiency, and to resort to the other alternative which had previously been introduced among the establishment working in the town and suburbs—of dividing the vaccinators into grades. The least efficient of the establishment have been classed in the third grade, and placed on a salary of Rs. 8 a month; the most active and useful vaccinators being placed in the first grade with salaries of Rs. 12, the addition of Rs. 2 a month given them being provided for by the corresponding decrease in a similar number classed in the third grade.

This classification has been found to work well in the town and suburbs, and will, it is believed, conduce to increased efficiency.

16. In the second Special Report on the Presidency Vaccine Establishment, application was made for twenty-seven extra vaccinators as part of the establishment for the new metropolitan circles. These men were to be entertained year by year for service during the vaccinating season only. In sanctioning the scheme which was then brought forward, no provision has been made for this grade, and no reason has been adduced for having left this blank in the establishment. The attention of Government to this point is solicited, and sanction for the entertainment of twenty-seven extra vaccinators on the 1st of October every year asked for. It is not intended to entertain the whole of this establishment at one time. As a rule, a smaller number will be engaged early in the season, and the sum so saved will be expended in securing the services of a greater number of men as the season advances and greater calls exist for the services of vaccinators. At the end of each season should any of the money granted for the employment of the extra vaccinators remain unexpended, it will be paid back into the Government Treasury.

The retention of a permanent establishment of vaccinators is an unavoidable necessity. Without a permanent establishment of trained vaccinators it is impossible to work an impromptu establishment during the vaccinating season safely and profitably; with a trained establishment, however, the case is different, and a certain number of new men can be adequately supervised and made to work so efficiently as to return a fair equivalent for the cost entailed by their entertainment.

The existence of such a temporary establishment is of considerable importance as a training school and recruiting ground for the permanent establishment, and will give to the whole Vaccine Department an amount of life and elasticity that is much needed.

On my first assuming charge of the department, one great difficulty to be contended against was the one of discharging a vaccinator. The detriment to the annual season's work caused by getting rid of a single vaccinator was so great as to render it a very serious step to discharge him, however desirable it might be to do so. In this way, an idle, careless, it may be a partially incompetent man if he knew anything of vaccination, was often retained simply because, however bad he might be, he was superior to an untrained recruit. Such an undesirable state of matters can be at once got over by having a temporary establishment, in which candidates for employment can year by year learn their duties and show their fitness for permanent employ. While working in this way, a very tolerable estimate of the honesty, sobriety and industry of the extra vaccinators can be formed, and the permanent establishment can be placed in the advantageous position of having men of known character who understand something of vaccination to recruit from as vacancies occur in its ranks.

17. In arranging for the three new circles of vaccination round Calcutta, permanent districts have not yet been assigned to the Superintendents. Position in which the work was carried on. It is not quite clear how much work they will be able to overtake, and what extent of country they will be able to keep vaccinated. Till some near approximation is arrived at of what can be effected by the staff of each of the circles, it would be difficult so to arrange them that the circles would co-operate in such a way that the part protected by each would support those overtaken by the others, and thus mutually be of use the one to the other in excluding small-pox. For the present it has been arranged so to employ the staff as to enable it to fulfil the urgent consideration of protecting Calcutta from small-pox, and while thus conducing to the safety of the city, guarding the country immediately in its neighbourhood from the danger of being constantly exposed to receive small-pox from Calcutta when the epidemic raged in that centre of population. With this view, though the circles have been kept quite distinct, the united force of the three circles has been brought to bear upon the protection of the strip of the Hooghly district lying contiguous to the river and rail. These two chief lines of communication with Calcutta have been so far protected as to lessen the chance of sending small-pox from the Hooghly district by such a large extent as might be roughly represented by any high figure approaching 75 per cent. The barrier thus thrown up between the metropolis and small-pox is a most efficient one; but as soon as the staff of one or more of the circles can be spared for the purpose, the work will be so carried on as to increase the protected tract till it has an average width of 25 miles. A part of the third circle was worked during a considerable portion of the season in the 24-Pergunnahs to the south of Calcutta, in places in the neighbourhood of those where vaccination had been carried on last year.

As will be detailed in the next paragraph, small parties of vaccinators had also to be detached on special duties.

FIRST METROPOLITAN VACCINE CIRCLE.

Superintendent BABOO RAM SOONDER GHOSE.

18. This year the vaccinators belonging to this circle worked along the line of rail from Howrah up to the Mughrah Station on the East Indian Railway.

Work overtaken by each circle.

It overtook a tract of country about 30 miles long and about 8 miles in breadth, having an area of some 240 square miles.

In this tract of country the vaccinators worked in 537 villages.

Besides this, in consequence of small-pox having been reported as prevalent in some villages near Dum-Dum in the Ooriaparrah Thannah, some of the vaccinators belonging to this circle were sent to work in and around the infected villages, and soon succeeded in stamping out the disease.

A little vaccination was also done at and about Khurdah, a large village in the Nawabgunge Thannah. On a report that small-pox was raging there, a party of vaccinators was despatched to stamp it out, but the disease turned out to have been varicella, and their services were not required. The Superintendent in spite of this availed himself of the occasion to establish vaccination there, and about 300 people were vaccinated.

SECOND METROPOLITAN VACCINE CIRCLE.

Superintendent BABOO BUDDYNATH BRUMMO.

The ground which was taken up by this circle lay on both sides of the railway, and extended to the north boundary of the Hooghly District. Many vaccinations were also made in the Burdwan District, where it is continuous with Hooghly and lies adjacent to the line of rail. From this as a northerly limit it extended down the railway to the Mugrah Station. It included a tract of country measuring about 20 miles and having an average breadth of 18, thus embracing an area of about 360 square miles. During the season the vaccinators of this circle worked in 343 villages. Besides this, Baboo Buddynath Brummo, with some of his vaccinators, took advantage of a favorable opportunity which occurred of commencing vaccination at Nuddea, and thus, besides establishing an important era in the history of vaccination on this side of India, effected an opening for next season's work.

THIRD METROPOLITAN VACCINE CIRCLE.

Superintendent BABOO JADUB CHUNDER GHOSE.

The vaccination by this circle was carried on both in the Hooghly District and in the 24-Pergunnahs. The portion of the Hooghly District overtaken lies adjacent to the river, and extends from Howrah to the most southerly limit of the district, the river front measuring about 40 miles. The extreme south of the district included between the Hooghly and Roopnarain rivers measures about 8 miles in width. Immediately north of this the district is much wider, and the vaccinators worked up to an average distance of 14 miles from the river. An area of about 438 square miles was overtaken in the Hooghly District. In the 24-Pergunnahs the vaccinators worked in the Thannahs of Joynuggur, Sooltanpore, and Bankipore. The Joynuggur Thannah, with the exception of a few villages in a desolate corner, has been thoroughly vaccinated, and about a third of the other two thannahs has been overtaken. An area of about 70 square miles of the 24-Pergunnahs has this year been vaccinated, and the vaccinators have worked in 655 villages.

Besides this, two vaccinators worked for some weeks in the Bongong Sub-division in Nuddea, and put a stop to local outbreaks of small-pox. After the vaccinating season was over, three others had to be sent to the Kooshtea Sub-division where small-pox was reported.

19. On the banks of the river for a few miles above Calcutta, the people had been accustomed from time to time to visits from vaccinators, and came forward readily enough as soon as the vaccinators arrived at their villages. The time at which vaccination was this year practised among them was exactly that at which inoculation was year by year practised, and that therefore which they looked on as the best time for vaccination. This last fact added to their previous knowledge of vaccination rendered it so easy to work among them that I think it would be no exaggeration to say that they were really anxious to be vaccinated. This willingness was confined to almost the very bank of the river. At a distance of five miles from it, in many places very steady resistance was encountered, and numbers had to be left unprotected. In the same way, in the south of the Hooghly District, many of the villages, owing to the vaccinators working there in February and March, though they knew nothing previously of vaccination, were able to be vaccinated, while other villages only a few miles off succeeded in preventing any vaccination being done among them. The villages last alluded to lie chiefly in the Ampta and Juggutbullubpore Thannahs, and the inhabitants have promised to allow of vaccination in October next. It is highly probable that this promise is only a ruse to gain time, and that in October they will be ready with another excuse. This check, for it was a very decided one, was most judiciously accepted by Baboo Jadub Chunder Ghose, the Superintendent of the circle, as a less evil than pushing vaccination till the population were made hostile. In October next a determined attempt will be made to win them over to be vaccinated; but as soon as their temper has been ascertained to be such as to render further measures impolitic, the vaccinators will be withdrawn from among them for the present. In future years when they have been hemmed in and surrounded by a vaccinated population, they will be more easy of persuasion and less chance be run of raising in them a spirit of determined opposition to the practice. It may here be mentioned that the Mahomedan population are even more difficult to persuade than the Hindu, and in some seven or eight villages between Pundoo and Mugrah inhabited by Mahomedans, not a single vaccination could this year be procured.

20. As a rule, the people have shown themselves very backward in appreciating the benefits to be derived from vaccination, and have required that much time and trouble should be expended before they consented to allow of vaccination being performed. Quite independent of any dislike or distrust of vaccination, an indefinite fear of some ulterior object of Government very frequently showed itself. At one time they fancied that protection from small-pox was only a bait thrown out to induce them to allow the vaccinators to mark them with the view of identifying them in some way when a capitation tax was to be levied. Stories, even more childish and incredible, were in frequent circulation among them, all bearing a surprising similarity to fables recorded as being current in other parts of India.

Very frequently the impression was conveyed to my mind, even when it was not expressed in words, that the people knew that a benefit was being conferred on them, but that at the same time they individually would have been glad, if they had not been brought by circumstances into participating in the benefit. In numerous villages various spokesmen spontaneously declared themselves grateful for what was being done, and in some instances I cannot doubt their sincerity in doing so; while in others I regarded the words as merely those of empty compliment, and as far from representing the true feeling of the people. Very often a sort of enthusiasm was noticed during my inspections, the older children rushing about and commenting loudly on the large numbers of vaccinations which they had witnessed, and looking on the whole proceeding as a sort of festival.

The vaccinations in the south of the 24-Pergunnahs were effected without any marked opposition; while the people knew nothing of vaccination and would rather not have been vaccinated, they still listened to what was said and ultimately they were talked over into coming forward in large numbers. In some of the larger villages as many as 500 would come forward in one morning to be operated on. To procure this of course the gang of vaccinators required to have been persuading them for some days, and the personal efforts of the Superintendent himself, were often required before any progress could be made. Instances of such large numbers coming forward were only met with in the south of the 24-Pergunnahs, and are mentioned as an example of how at times progress was made at an exceptionally rapid rate. Nothing approaching to this was met with elsewhere, and in many cases a painfully slow advance was made, person by person requiring to be talked over one by one.

21. As narrated in a previous paragraph, vaccination was this year established in Nuddea. Considering the high estimation in which Nuddea is everywhere held in Lower Bengal as the chief seat of all theological learning, the position this year gained in inducing the Pundits to accept vaccination is one which constitutes quite an era in the progress of vaccination in India. In this classical repository of ancient learning, the Pundits who give their own interpretation to all questions bearing directly or indirectly on Hinduism, exercise a widely spread influence on the whole of the surrounding country. Vaccination, though not in itself a religious act, or constituting a breach of religious observance, is yet, from both these points of view, very intimately associated in the mind of the Hindu with religion.

Being able to point to the Nuddea Pundits as having accepted vaccination, will to a material degree make it for the future more easy for hesitating members of the Hindu community to allow themselves to be protected by it. This vaccination of the Nuddea Pundits has been effected at a most opportune moment, as next season two of the metropolitan circles of vaccination will have the duty assigned to them of protecting the country which lies between Kishnaghur and Calcutta. Advantage will be taken by means of printed circulars to make it very generally known that the Nuddea Pundits regard vaccination favorably, and have allowed it to be introduced into their families.

Acknowledgments are due to Mr. Tweedie, Joint Magistrate of Nuddea, for having led the way to this important result. While in the district, he took advantage of being in the neighbourhood, to try and interest several of the older and more influential of the Pundits in the cause of vaccination. He so far succeeded in doing so, that he believed that if he only had the opportunity he could induce some of them to allow their families to be vaccinated. On his communicating with me on the subject, I judged the occasion such an important one that it should not be suffered to slip away. Though the vaccinating season was just coming to an end, and the energies of every vaccinator were being strained to finish work already on hand, after consultation with Baboo Buddynath Brummo, he was deputed to take some of his vaccinators and make such use of the opportunity as he was able.

He left fully impressed with the importance of the duty with which he was entrusted, and most successfully carried out the task allotted to him.

On his way to Nuddea he received a letter from Mr. Tweedie to the address of the leading Pundits. When they had perused the letter, the Pundits met together, and after long consultations and repeated discussions with the Superintendent of Vaccination, they were prevailed on to allow vaccination to be practised among them. In his report Baboo Buddynath Brummo states that on the 4th of March Brojonath Biddyarutno, first Pundit of Nuddea, led the way by having his children vaccinated.

Among other reasons which led me to select the agent, whom I did, to carry out the vaccination of the Nuddea Pundits, was the fact that Baboo Buddynath Brummo had been Sub-Assistant Surgeon of Kishnaghur for some years, and was consequently personally acquainted with some of the Pundits, while to others also he was known by reputation.

Mr. Tweedie was not asked by me for any assistance and spontaneously adopted the course he did. In the step which he took in attempting by personal persuasion to induce the Pundits to accept vaccination, I consider that he went out of the sphere of his more legitimate duties, so that I have the more pleasure in recording my obligation to him.

22. On several occasions discontent was expressed at the conduct of the vaccinators in not giving the necessary amount of attention to people who had been vaccinated.

Discontent occasioned by fancied want of attention.

Every time that complaints were made, an investigation was instituted on the spot, and on the statements of the complainants themselves the vaccinators were proved to be free of all blame. As a rule, in the course of such enquiries it came out, that the vaccinators had exceeded their instructions and gone to see the progress the vaccination was making more often than they had been ordered to do.

The cause of this feeling of discontent was very clearly traced to the circumstance that after inoculation the complainants had been accustomed to receive a certain amount of attention from the Bengalee inoculators, and they were under the belief that a similar amount of care ought to have been expended on them by the vaccinators.

Any such feeling of discontent, should it become widely spread, would be apt to lead to a hostile feeling towards the practice of vaccination, and even though it rests on a false foundation, must nevertheless be carefully guarded against.

Till the people are sufficiently acquainted with vaccination to be able to know from their own experience that the numerous and long continued attentions which are usual after inoculation are quite unnecessary after vaccination, it is proposed to anticipate the rising of such a feeling of discontent. To guard against its occurrence a printed statement, that all such visits from the vaccinators are quite uncalled for, will be placed in their hands at the time of vaccination, and in this document will also be distinctly laid down the exact number of visits that the vaccinators are required to pay them. It is to be expected that when they are in the possession of such information, and know that the matter has been authoritatively fixed, they will be less likely to take offence in fancying that the vaccinators are remiss in this respect. It is obvious that all visits of the vaccinators, over the number laid down for them, should be guarded against with considerable care, as occupying time which should be expended in carrying on further vaccinations. Each single unnecessary mark of attention by repetition comes to be looked on as a requisite part of the process, and in subsequent years comes to be an unnecessary cause of delay in the work. The whole tendency of the vaccinators is to rear up a system of guards and restrictions requiring their counsel and assistance, and so to invest themselves with all the greater importance in the eyes of the population. A check has to be brought to bear on all such needless complication by instilling into the minds of the people that one great characteristic of really good vaccination is that only the most evident and simple precautions are necessary, and that the only reason the vaccinators require to visit them is for the purpose of assuring themselves, that the virus has been successfully engrafted, and that the prophylactic has run such a course as to ensure thorough protection. While thus a clear and definite course will be pursued in this matter, full discretionary power will be given to the head vaccinators, and care be taken that they avail themselves of it to make exceptions when occasion requires it. A timid village will require exceptional treatment, and in awarding to them any unusual amount of attention, it will be kept up before them that such watching over them is quite unnecessary. It will also be pointed out, that this is only permitted till they, from experience in the harmless nature of vaccination, can gain assurance, and allow of its being practised among them without dread.

23. Whenever the vaccinators were working on the estate of a Zemindar whose influence

Attitude of the Zemindars towards vaccination.

could be brought to bear on the people to induce them to submit to vaccination, it was as a rule readily granted. Several of the Zemindars shewed a most enlightened readiness to assist the vaccinators, and their good will proved very beneficial in securing the work being more rapidly carried on. In the instances of only two Zemindars with small holdings did they prove an obstruction. In one of the instances I had to write a letter to a Zemindar within five miles of Government House, who would not allow his ryots to accept vaccination. I wrote to him in a conciliatory strain, inviting him to come and see me if he felt any doubts on the subject of vaccination, while I pointed out to him that he must not interfere in the way he was doing. He withdrew his opposition without having any interview with me, and the vaccinators effected their purpose. The other instance occurred also very near Calcutta; three or four joint holders of land, one of whom was a law-agent, chose to interdict their ryots, who were willing enough, from being vaccinated. They too were addressed on the subject, and while it was pointed out to them that they were perfectly free not to receive vaccination in their own families, they were told that they could not be allowed to take away the same liberty for action from others who had no objection to accept it. Their ryots were all vaccinated after this communication.

24. It may be interesting to put on record an incident which this year occurred in the Shampore Thannah. The wife of a priest of Sittolah

The incarnation of Sittolah assisting the vaccinators.

seems to have believed herself to have been possessed or inspired by the goddess and to have been of considerable assistance to the vaccinators. While listening to the detail of what occurred soon after it had taken place near the site of this incident, the mind was carried at once back to the descriptions of the oracles of the Pythia at the Delphian temple. This incarnation of Sittolah seems to have thrown herself into a state very much resembling that narrated of the priestess at ancient oracles, and with violent gesticulations and fervour to have made known the will of the divinity presiding over small-pox in a state bordering on ecstasy. She declared that the vaccinators were commissioned by the goddess to stay small-pox and ordered that food should be given to them, and that the people should accept their services.

In 1864 in the village of Parool, in the Dhunniakhally Thannah, a similar instance of a woman believing herself to be inspired by Sittolah occurred. She however amid incoherent ravings denounced the vaccinators and prophesied that every one they operated on would die. Only three vaccinations were done that year in Parool, one of them having been performed in my own presence. In a subsequent year most of the inhabitants of Parool were vaccinated, this woman assisting the vaccinators after saying that Sittolah had given her permission to do so, when all the surrounding villages had been overtaken.

While speaking of the incident which occurred this year, Baboo Jadub Chunder Ghose, the Superintendent of the circle in which it took place, says in his report—"A Brahmin woman in the village Nowleah, the wife of a priest of the goddess Sittolah, finding that it was too late to make any opposition and that the surrounding villages have all been vaccinated, and that she could not any longer keep her stand against vaccination, and also with a view to keep up her earnings, gave out that she had been inspired by the goddess. She accordingly continued to shake her head before the goddess on the usual Poojah days, and when my man Hurrish Chunder visited her he found her suddenly falling to the ground insensible, rising up again and saying that she had sent word to *Maharanee* (Queen Victoria) to send vaccinators to Shampore Thannah and to vaccinate the children, and that the vaccinators had accordingly come and were vaccinating. She added that a Government vaccinator must be waiting here, so the priest, the husband of the woman, called out to see if there was a Government vaccinator present. Hurrish Chunder who stood by to witness this inspiration, was pointed out as having been deputed to the spot."

The influence exerted by the woman was restricted to very narrow limits, otherwise the ravings of such a fanatic would have exercised a salutary effect on making the population willing to receive the vaccinators.

25. Having a given tract of country to protect in which very many of the inhabitants were

Inoculation and vaccination going on together.

much attached to inoculation, as might have been expected beforehand, the vaccinators had to come into competition with inoculators. As soon as the season for inoculation began, the inoculators entered the field against them. At times they succeeded so far as to carry off a large share of the children who remained unprotected, while in other instances the vaccinators proved more than a match for them, leaving none unprotected for them to operate on. At times the inoculators succeeded in inoculating in spite of all the vaccinators could do, but

on the other hand they were sometimes so far worsted as not to be able to get a single case to submit to inoculation. More than once when a village has been talked over and a day fixed for vaccination, the vaccinators have found themselves forestalled by the inoculators, and had the mortification of seeing that the whole village had been inoculated. Such experiences sharpened their wits and they have been able to repay their rivals with similar disappointments. On hearing that a day had been fixed for inoculation, they have been able by leaving the work they were engaged in, to single out such villages and have them vaccinated before the inoculators had an opportunity for disputing possession of the village with them. When they have been unable to effect so great a success, they have still been able to vaccinate many in the same villages in which the inoculators have been at work. While inspecting I have myself had the opportunity of seeing inoculation running its course in children who were brought to me almost side by side with children who had been successfully vaccinated. It is almost superfluous to say that while these inoculators were working against them, the progress of the vaccinators was impeded.

Usually the inoculators stood their ground well, but on one occasion an inoculator seems to have been so much alarmed at his position when he learned that his rivals were Government servants, that he went to the Thannah and wished to deliver up the implements used in inoculation. The Sub-Inspector refused to receive them, so he made them over to a vaccinator and they are now in my possession. This armamentarium consists of a shell and a joint of bamboo half an inch thick and rather more than three inches long, with a piece of a smaller joint of bamboo as a cork. The shell is used to carry about the cotton soaked in small-pox matter, while the bamboo case holds the instruments used to operate with. These consist of a hard thorny spine of more than an inch in length and three needles about $1\frac{1}{2}$ inches in length and of degrees of fineness. The needles are flattened out at the head into a sort of scoop. They are roughly manufactured and would perhaps be more properly described as resembling nails rather than needles.

26. One of the great advantages to be derived from employing large bodies of vaccinators

Influence exerted by those already vaccinated on others.

within a limited area, instead of scattering them broad cast over large tracts of country, consists in the influence exerted on the population by witness-

ing vaccination going on all round on an extensive scale. I believe it would be difficult to overrate the assistance which has in this way been gained in conducting the operations of the past season. Villages which at first would scarcely listen to what the vaccinators had to say, ended in some cases by entreating that they might not be passed over. Of course other causes which assisted in leading to this change of behaviour deserve their full share of consideration. The continued importunities of the vaccinators, the reiterated assurances of the Superintendents, doubtless tended much towards the attainment of this end. That argument however without which the best intentioned efforts would have failed in attaining success, was furnished in the spectacle of universal vaccination all around. This seems to appeal with a force and significance specially its own to the intellect of a hesitating village. In the first steps of the process it forces their attention towards a consideration of vaccination and through intermediate stages relating to the safety and desirability of the protection afforded, it ultimately ends by leading them to accept it. The final effect is not always the same, at times even in accepting vaccination they do it with hesitation. Sometimes while willingly courting it, they dread the proceeding, at others all feelings besides seem sunk in the one fear lest their irritating delays and resistance to the appeals of the vaccinators should lead to their village being left in the forlorn position of being passed completely over.

Such a powerful agency as the mental effect caused by seeing vaccination everywhere is one which should on every possible occasion be made use of. So to hem in a village that they cannot escape from their little world into a region in which vaccinators are not working in full activity, is a most legitimate mode of influencing a refractory village. If they go to their usual haunts, there they are met by inevitable vaccinators. If they go to any relative's house within a few miles, they come across hundreds of vaccinated persons. On the right and on the left, before them and behind them, always the same sight presents itself. It would be a subject for surprise if they could escape from the conclusion that they too should become as the others. Sometimes in giving in, or in asking for vaccination, the people seem to have had no very distinct motive for doing so, and to have taken no special precaution before proceeding to the step, when they saw vaccination going on far and near. Some of the villages however were most systematic and painstaking in deciding the question for themselves. In one village where great satisfaction was expressed to me, I found that the vaccinators had visited there eighteen times, and the Superintendent had gone to them several times before they gave their consent. Besides assuring themselves in a general way regarding the extent to which vaccination was being carried on, they had sent emissaries to the villages all round

to watch the proceedings of the vaccinators, and only when they had satisfied themselves on all points, did they come forward and offer themselves for vaccination.

27. On many occasions I naturally sought to make myself acquainted as to how far the people knew regarding the benefits they were to expect from vaccination. The comparative merits of vaccination and inoculation were frequently brought up with

Knowledge regarding vaccination possessed by those newly made acquainted with it.

the view of trying to elicit the prevalent state of feeling on the subject. In nearly every instance the replies were most satisfactory. At times I was answered that whatever the Government liked was the best, or by a vague and general reply to a similar effect. This however was the exception and the rule was a clear and explicit statement showing forth the advantages of vaccination. Of course the ideas had been given them by the vaccinators, but the emphasis and assurance with which the reply was given was the result of their having had experience in the matter, and the tone assumed was of those who had been able of themselves to verify the truth of their statements.

It was by talking to the young lads of the village that the encouraging results became most evident, but after their natural shyness had been overcome, the short answers of the women were found also to be very much to the point. The influence which such a widely spread acquaintance with the subject will exert in making the people who have once been vaccinated ready to come forward and permanently adopt the practice requires no explanation to cause it to be understood, and this fact is simply mentioned as having a most hopeful tendency. It has been judged that a few simple sentences on the point would make it more easy for the vaccinators to explain the subject and would help at first to keep the matter more fully in their remembrance, and therefore for use next season such a document will be prepared.

28. In every instance where a small community, those for instance living in one quarter of

Simultaneous vaccination.

a village, could be gained over to allow of vaccination being practised simultaneously, an effort was made to get them to fix on the same day, the vaccinators guiding them to a day on which an abundance of virus was procurable. Should it prove possible to carry out this system, as undoubtedly it will be to a very considerable extent, a great point will have been gained, as to vaccinate the whole of a small community at once occupies but little more time than each section of them would require if waited on at separate times. The preliminary arrangement to vaccinate a village takes little more time than that occupied in fixing to suit the convenience of an individual. If therefore each individual can be ignored and the village representatives alone consulted, the whole labour of house to house visitation will be saved.

For the purpose of giving notice that vaccination is going on, or that the vaccinators desire to inspect those who have been vaccinated, a Burmese gong is sounded. After the merits of various sounding instruments had been discussed, this one was selected as being light and portable while its sound was penetrating, and as it was unlike any other sound which was to be heard among the villages, in the course of time its note would come to be associated with the visits of the vaccinators and come to be recognized without difficulty. An attempt is also made to select a point or points in each village as those to which to resort for vaccination, so that the people may have no difficulty in finding the vaccinators. The various Thakoor Tullahs usually furnish convenient sites at which the people can be collected for such a purpose. It is hoped that all these detailed arrangements will materially conduce in the future to lessen the cost of each vaccination by a material economising of the time of the vaccinators.

It is desired that ultimately the population should become so trained to the routine that on hearing the sounds of the gong they will betake themselves to the Thakoor Tullah, knowing that a vaccinator has arrived; that the vaccinators will without delay be able to fix on a day for them to come forward and be simultaneously vaccinated, and that even on his first visit he will often be able to vaccinate as many people as he requires to furnish virus on his subsequent one. That on the day fixed the people will assemble and be operated on, and that on the days on which it is necessary to inspect them, to repeat the vaccination in any instances of failure and to note the results, they will again come forward in the way in which it is to be wished that they should do.

29. Throughout the season I have been fully satisfied with the character of the vaccination

Character and success of vaccination during the past season.

in the second and third metropolitan circles. In the first circle I have also seen a very large amount of high class vaccination. In the last mentioned circle however I have had reason to comment sharply on some of the vaccinations brought forward for inspection, on account of their being inferior to the high standard insisted on. This circle

is unfortunately situated with regard to the other two ; its Superintendent was changed in the middle of the season, owing to his having proved himself incompetent last year, which was the first season he had acted in a vaccine establishment. In addition to this, two of the head vaccinators attached to it are inferior in capacity to the other head vaccinators in the department, and have only been retained in their posts because the present Superintendent insists that he can train them up to a necessary state of efficiency before next cold season, and he is anxious that there should be no change. On several occasions on which fault was found with the character of the vaccinations, it was pleaded in extenuation that the head vaccinator was working under difficulties owing to his trained vaccinators being incapacitated through fever. It was proved that he had been carrying on the work with young vaccinators, who under other circumstances would only have been allowed to operate under the eye of those who could be trusted to guard against their faults. With such exceptions the character of the vaccination in these three new circles has been of unsurpassed excellence.

The following table shows the results attained to under each of the three Superintendents :—

Superintendents.	Successful.	Doubtful.	Failed.
Baboo Jadub Chunder Ghose	70,282	202	79
Baboo Buddynath Brummo	25,316	36	53
Baboo Ram Soonder Ghose	31,747	244	117
TOTAL	1,27,345	482	249

Thus the percentage of success this year according to the table amounts to 99·42 per cent. Last year it was stated to be 99·40. As pointed out last year, I do not consider the materials on which the calculations are made to be so strictly correct, as to deserve that absolute credence should be accorded to the decimal figures.

With this limitation I accept the figures as representing very closely the amount of success which has been arrived at.

The fact that ninety-nine out of every hundred vaccinations have proved successful, reflects great credit upon each of the three Superintendents under whose supervision the work has been carried on.

During my inspection in the month of February of two of the gangs of vaccinators, I noted down the number of points of insertion which had failed. Out of 2,225 vaccinated persons on whom there had been 8,900 points of insertion, in only 56 instances had the insertion not been followed by vaccinia. Thus in only 0·62 per cent. had failure resulted in cases in which the persons had, owing to the presence of other points of insertion having taken, been successfully vaccinated. With the view of comparing them with these results, I requested each of the Superintendents to make similar observations in the first 500 cases they inspected in each gang between the 6th and 9th days of the vaccination.

In the combined results of these inspections, it is reported that 95 points had failed in 4,500 cases, in which 18,000 insertions had been practised. A ratio of 0·52 per cent. of failure ; a result which tallies very closely with my own observations. It is the custom in the Vaccine Department to vaccinate by means of four points of insertion, and I am aware of no test which could be applied which would submit the work of the vaccinators to such a severe ordeal as the one now brought forward. As stated last year, I consider that vaccination as carried on by the department, as far as relates to its success, may be considered to have practically arrived at attainable perfection.

30. During the past season 1,28,589 persons have been reported as having been vaccinated.

Numbers vaccinated and cost of vaccination. Of this number 1,07,140 have been inspected by the Superintendents of Vaccination, thus 83·31 per cent. of all the cases vaccinated have not only been seen by a medical man, but have been verified as having been genuine and not spurious vaccinations. As these new circles were only established in October last, in calculating the cost per case of the work done, it has been judged necessary to make the calculation upon the expense entailed by the establishment during a

whole year instead of simply including the money actually spent during the months in which the circles have already been in operation. In this way only can a true estimate be formed of what each vaccination actually costs, and the result be made available for purposes of comparison in future years.

The computation has been based on the inspected cases alone, those which have not been verified by the Superintendents having been left out of the calculation.

Each cost from that of general superintendence down to contingent expenses have been included.

The cost of each inspected case has been Rs. 0-4-1. Thus though the introduction of the Calcutta system involves the keeping up of a most expensive machinery for vaccination, yet, owing to the large amount of work which can be overtaken by it, the result proves that each reliable vaccination can be purchased at a very small cost to the State.

31 In the course of the season the vaccinators of the first metropolitan circle have worked all round the territory belonging to the French Settlement at Chandernagore. After a year or two this portion of the Hooghly District, as well as the whole country in the immediate neighbourhood of Calcutta, will have been vaccinated. The Government will then be in a position to extend the Act prohibiting inoculation into this vaccinated area. When this has been done, as the inhabitants of the French territory follow the practice of inoculating, the residents of Chinsurah, Hooghly, and the other places situated near the French Settlement will be liable to become infected by small-pox each time communication takes place with those among whom inoculation is being practised. As intercourse between French and British subjects is very freely carried on, the contingency of small-pox being conveyed into British territory is no remote possibility, but a contingency which should at once be guarded against. Should no communication on this subject be addressed to the French Government at Chandernagore till the British Government finds itself in a position to prohibit inoculation, they will have just cause for complaining that they were not warned before, so that they might have had the same time for carrying out their arrangements that the Bengal Government have had. It seems therefore desirable that His Excellency the Governor of Chandernagore should be informed that the Government of Bengal have determined to prohibit the practise of inoculation around the French territory, and have provided that their subjects should be protected by vaccination, and that he should be invited to consider the subject now, so that when the people around Chandernagore have been prohibited from inoculation, they may not remain in danger from inoculation being practised near them.

32. Different subjects connected with vaccination have been occupying my attention for some years, and I now forward three reports on various subjects which, though they are not of such a nature that they can find a place in an annual report, still may suitably accompany it as an appendix.

The reports are on the following subjects :— *

- I. On the regulation of inoculation in Bengal in those places where it is not prohibited
- II. On the employment of Sub-Assistant Surgeons as Superintendents of Vaccination.
- III. On the unsatisfactory state of the arrangements for vaccination as practised under the municipalities, other than those of the town and suburbs of Calcutta.

* See page Ivii.

FROM

THE SUPERINTENDENT OF VACCINATION,
DARJEELING CIRCLE.

To

THE SECRETARY INSPECTOR GENERAL
INDIAN MEDICAL DEPARTMENT,
LOWER PROVINCES.

Dated Darjeeling, the 5th May 1869

SIR,

I have the honor to submit the returns and report of the Darjeeling vaccination circle for the 12 months ending the 31st March 1869.

2. For the first seven months of this period the operations were confined to the Darjeeling hills. The results are shown separately in the table No. 2. They could not be included in the general return, as the new form was not issued until the Darjeeling season had nearly ended, and as the returns, previously kept by the vaccinators in my circle, did not enter into the particulars of age, sex, caste, &c., required under the new form.

3 The total vaccinated in the Darjeeling hills during the summer months of 1868 exceeds that of 1867 by 1,585, and the percentage of success, 83, is also higher; but, as I have already pointed out in my report upon vaccination in Darjeeling, dated 25th November 1867, the work can never be so satisfactorily prosecuted during the summer and rains in the hills, as during the cold weather in the plains. In the months of April and May, before the monsoon sets in, vaccination amongst the laboring classes of Bhootahs and Nepaleese is followed by an amount of fever and local inflammation that is often very serious. Whether it is from hard work, such as cutting timber, carrying heavy loads, and cleaning jungle in the depths of hot valleys, or from exposure to a by-no-means powerless sun, the arm operated upon swells in some cases to twice its natural size, and the vaccine puncture becomes the centre of a slough which I have seen as large as a crown piece. Consequences such as these could not but produce an unfavorable feeling towards vaccination, and within a few days of penning this report, I have considered it advisable to prohibit adult vaccination altogether until the rains shall have set in. A single casualty from vaccination would create a prejudice against it here, which would endure for years, and casualties have occurred at home, where the operation has been performed under circumstances apparently the most favorable possible.

4. I am still of the opinion expressed in the report just mentioned, that it would be advantageous to suspend operations during the height of the monsoon, for two months at least. Inspector General Dr. Green's views on this point differed from mine, and, in accordance with his decision, the vaccinators were kept at work throughout the rains of 1868. That their work could not have been satisfactorily carried on or inspected, will be evident when I mention, that rain fell on 28 days in July, and on 28 days in August, and that on 20 out of the 28 in July, and 12 out of the 28 in August, rain-fell for the whole or more than half the day. It should be noted, that though last year's rain fall at Darjeeling was higher than usual, the number of wet days was by no means above the average.

5. In place of the two most rainy months, the vaccinators might commence operations in February, instead of as now in April, and the work done during February and March might be very easily verified by the Superintendent on his return from the plains at the end of the cold season.

6. Table No. 1, prepared in accordance with the new forms issued for the use of the Vaccination Department, shows the results of the operations performed during the cold season of 1868-69. With the same number of vaccinators as in the previous season, it is gratifying to note an increase in the total vaccinated so large as 19,095.

7. The season under report had this advantage over 1867-68, that the native superintendents were at their posts in the last week of October, and the lymph sent them from Darjeeling having taken well, operations commenced with November; whereas, in the previous season, very little was done until December, for reasons mentioned in my last report; but after deducting the November operations, there is still an excess of over 15,000 for the season 1868-69. It is needless to mention that the operations were checked throughout by the diary and village nominal roll system.

8. The percentage of successful is 88 on the gross total against 80 last year. Individual vaccinators have attained a higher measure of success than this, but experience has

satisfied me that a smaller percentage than 10 or 12 of failures cannot be attained as a general rule.

9. The operations were confined to the same districts as the previous year, namely, Western Doars, Rungpore, Dinagapore, Bograh, and Rajshahye. While the establishment remains on so small a scale as at present, it is impossible to say when the other districts included in my circle, and not as yet occupied, can be taken up. In truth, the vaccinators are scattered over far too wide a tract of country, the result of a misapprehension from the very commencement of the true limits of the Darjeeling vaccination circle. When I was made aware, that I had taken up districts, such as Bograh and Rajshahye, which did not properly belong to my circle, I thought it right to represent that it would be impolitic to abandon them after two years' occupation and successful work, however much it might have been for the Superintendent's convenience to do so, and the sanction of the Government was ultimately obtained for their inclusion.

10. The important step was taken last year, in the withdrawal of all vaccinators from the control of Civil Surgeons in those districts included in the Darjeeling Circle. The only untoward result that I know of from the change is, that time has been lost in taking steps to meet outbreaks of small-pox, which might have been saved if the Civil Surgeon had vaccinators under his own orders. At present he can do nothing beyond make a report to his departmental superior, and, as has happened during the season under review, weeks may elapse before the intelligence reaches the Superintendent of Vaccination.

11. In remedy of this, I would suggest that Civil Surgeons in the districts comprised in the Darjeeling Vaccination Circle, and Superintendents of Police, in addition to the reports in such cases they are already directed to make, be instructed to address a brief report, mentioning the date and locality of the outbreak of small-pox, direct to the Superintendent of Vaccination, Darjeeling. By this plan, the least possible amount of time would be lost. I do not recommend that Civil Surgeons be empowered to give orders direct to such native superintendents and vaccinators as may be stationed in their districts, for this would inevitably lead to confusion.

12. With reference to reports of small-pox, there is one evil which it seems impossible to provide against, namely, false alarms. A constable in charge of an outlying post hears of an eruptive disease in a village in his neighbourhood, and at once reports it as small-pox; in due time, notice reaches the Superintendent of Vaccination, and a vaccinating party is despatched, who travel a distance of eighty miles perhaps, to find a few cases of measles. This is what has just occurred in the Julpigoree District. Again early in March, I was informed that small-pox was prevalent in the Terai, on hearing of it, I changed my plans and went myself to the thannah and village where the disease was reported, and found four of the inhabitants in measles. In the previous January also, official reports of small-pox had been made from this thannah by the Police. One of the inmates of the house where the disease was said to have been then existing, accompanied me to the village I visited, and declared that the disease he there saw was the same, and afterwards went to his house, and saw all who had been ill in January, and none bore a trace of small-pox. The characteristics of this disease are so marked that one would fancy the most ignorant person could scarcely mistake it.

13. I can speak with confidence as to the marked improvement in the feelings of the people on the subject of vaccination, not only at the points where the vaccinators are working, but for considerable distances round. A vaccinator at Bograh, and another at Rungpore, was summoned directly, by the inhabitants themselves, of villages distant respectively six and twelve miles from the vaccinators' posts, to come and protect them, as small-pox had broken out. The vaccinators complied, and according to their reports, the spread of the disease was at once checked.

14. I mention these cases, not as examples of the stamping out of small-pox, for I have learned to receive native reports of small-pox with great caution, but they may be certainly taken as proof, that the people have begun to put faith in vaccination, for they must have believed that the disease, whatever it was, was small-pox, and there was nothing to prevent their having had recourse to inoculation if they pleased.

15. At another vaccinating station in the Rungpore District, an inoculator whom I had trained and entertained as a vaccinator, but whom I had to dismiss for misconduct, made an effort to thwart the vaccinator, and to resume his old practice, but the people would not accept his services, and he soon left the place. As another illustration of the progress of vaccination I may mention, that a petition was sent me, signed by many of the inhabitants of Titahar, praying that a vaccinator might be placed among them. It reached me too late in the season to allow of my complying, but I had them informed in reply, that their wishes should be acceded to next season. It is unquestionable that if the people here were

averse to or indifferent on the subject of vaccination, they would not have taken the trouble to address me at all. *

16. I may add one instance more of the value the people set upon a vaccinator's services. I found it necessary, to fill a pressing vacancy, to remove the vaccinator who for the previous season had been working at Sherepore in the Bograh District. I had utterly failed, as I stated in my first report, to introduce vaccination there when my establishment was originally formed, and during the second season the work had been only fairly successful. The inhabitants, however, when they found that the vaccinator did not re-appear amongst them, sent him many urgent messages to return.

17. These instances may be safely accepted as a great advance upon my first season's experience, when I often spent hour after hour in villages without succeeding in inducing even one person to submit to the operation. During my tour this year, I did not find a single vaccinator, who could complain that the people generally would not accept his services; there are of course still many who decline vaccination, especially Mussulmen, on religious grounds, and many who are, as in more civilized countries, apathetic and indifferent, but at most of my vaccinators' stations such recusants are in a very decided minority.

18. Some prejudices still remain to be overcome, and the chief of them perhaps is that against submitting infants to the operation, scarcely ten per cent. of the whole number vaccinated are under one year of age. The principal reason for this is, that the fever attendant on the maturation of the vaccine pustule is generally strongly marked in native children (much more so than in European), and the parents dread its severity in the case of infants. Popular impressions of this kind are not to be overcome at once by assurances of their groundlessness. It is to be hoped that they will wear away in time.

19. Another erroneous notion common amongst the people is, that vaccination affords a complete immunity from small-pox. I have reason to suspect that the vaccinators, in their anxiety to obtain support, have occasionally rather exaggerated its benefits and promised too much on its behalf. They have been warned on this point.

20. Throughout my circle, the lancet and the ivory points have been abandoned for the needle and ivory slips used, and, I believe, first introduced into India in the North-Western Provinces. The needles, of which I procured a supply from Moradabad, are not only much more effective than the ordinary lancet, but they cost very much less, and last a much longer time; indeed the lancet loses its fine point after a short use, and then becomes a very clumsy instrument. The ivory point, as ordinarily made, has either so fair a point that a very minute charge of lymph only can be introduced into the puncture in the skin, or it is so broad at the extremity, and I have noticed this in the points sent from England, that it would be necessary to make quite a large preliminary opening to enable it to get under the cuticle at all. The charged ivory slip used in the North West, is merely rubbed twice or thrice over the latticed scratches made in the skin by the needle, and I feel certain that by its use, the chances of failure are reduced to a minimum.

21. On the score of economy and effectiveness, I venture to recommend the exclusive adoption of the needle and ivory slip for vaccinating purposes. They do not appear to be so well known as they deserve to be in Bengal Proper, and I confess I first learned their value from the native superintendents sent to me by Dr. Pearson.

22. As the intimacy of the people with vaccination increases, arm to arm operations become more generally permitted; but, for the purpose of conveying lymph from one village to another, should they lie at all apart, the charged ivory slip must be still extensively used.

23. My vaccinators are, as a rule, interdicted from using crusts; with ordinary diligence, no vaccinator should find himself without a supply of recently charged slips, and there is one great objection to crusts, that, unless they are selected with great care, whether it is that the results of suppuration (which have been proved to be readily inoculable) contaminate them, or from some other cause, the chances are that out of three vaccinators from the ordinary crusts, one will result in a doubtful case. I have been frequently able to detect from a glance at his recent cases, that a vaccinator has been using crusts.

24. This observation does not apply to crusts, so far as I know, taken from European children; the latter are so much more carefully tended than the ordinary village children of the natives, that the difference is to my mind easily to be accounted for.

25. Small-pox was either more prevalent, or more carefully reported during the season just past than in the two previous. The principal epidemic was in the Purneah District, to cope with which I was directed to depute a vaccinating party, upon whose proceedings I have submitted a separate report. Purneah being one of the districts in my circle as yet not taken up, the native superintendent of the Dinagore District was necessarily sent to the seat of the

epidemic, and the Dinagopore vaccinators were left, for the time, without supervision. In cases of emergency, and with a limited establishment, contingences of this kind cannot be avoided, but it would be well if a Superintendent of Vaccination could be spared the necessity of sending vaccinating parties to a distance from their own districts.

26. In this particular case, the proper Dinagopore work suffered; shortly after the native superintendent had left for Purneah, a report reached me, when on tour in Rajshahye, through the Medical Department, of small-pox in the Dinagopore District. The report did not specify where in the district the disease had appeared, and in the absence of the native superintendent, whose duty it is to keep me informed, and to take immediate steps in such a case, I was compelled to address the District Superintendent of Police, and request him to send the necessary order to the vaccinators working at the thannah nearest to the place where disease had broken out.

27. I could learn nothing more on the subject, until I myself visited the Nawabgunge Thannah in the Dinagopore District, where I expected to find the vaccinator whose post it was, but the Police could tell me nothing of him, and reported that small-pox had been raging in that part of the country for some time. Next day I found the vaccinator working in the neighbouring illaqua of Chuntamin, which he said he was authorized by the native superintendent to include in his operations, and it was not until after their long delay, that the vaccinator was set to work in the place where his services were urgently required. I may safely assume that this could not have happened, if the native superintendent were not out of the district.

28. I myself met with a solitary case of modified small-pox of very mild type within a few miles of the Hubbrah Thannah in the Dinagopore District; on the day I was inspecting there, a man came to complain to the vaccinator that, although his child had been vaccinated the previous year, she had taken small-pox; I went to the village and saw the case; she, as well as all the other children in the village, bore excellent vaccine cicatrices. I could hear of no other case of small-pox in the village or neighbourhood, and her father could not conjecture how the disease had been communicated. There were but a few dozen pustules on her body, and scarcely any attendant fever, and I was able to assure her father of her speedy recovery. I pointed out to him at the same time, how different the disease would have been if she had not been vaccinated. The vaccinator was directed to keep an eye upon the case and the village, and report at once if the disease should spread, but, as I anticipated, no further report of small-pox came to me from the place.

29. I have already alluded to reports of small-pox in Rungpore and Bograh Districts, but as I had no opportunity of personal investigation, I cannot speak positively as to whether the disease really occurred or not. Since the close of the working season, an outbreak of small-pox at Rampore Beaulah was reported to me by the Civil Surgeon. I at once directed the vaccinators to resume work, but there has not been time as yet for any report of their proceedings.

30. The general arrangements for the season's work were the same as during the previous year, so a recapitulation is needless. The Deputy Superintendent, Sub-Assistant Surgeon Nilmoney Chowdry, has now had a fair share of experience and is a very efficient officer. He is well qualified for the work of general inspection, and it would be an advantage, if he, like the Superintendent, could be spared to travel throughout the circle; but, in the dearth of native superintendents, I have preferred that he should continue, during the season, in charge of the work in the Terai and Western Doars, rather than that the vaccinators there should be left for any length of time without supervision.

31. I have to express the same satisfaction as last year, with the way the native superintendents performed their duties. I can especially recommend one of them. He is in charge of two Districts, Rajshahye and Bograh, and has, consequently, much heavier work in the way of travelling (which circumstances compel him to perform on foot) than the others. I have never met a more conscientious native servant of Government; he has, to my knowledge, stuck to his work, travelling from post to post, when suffering from daily fever, and when, if he chose to lie up, not the slightest blame could be attached to him for doing so.

32. No promotion in the department being possible for a man of his grade, I should be very glad to be empowered to make an addition to his pay of ten rupees per mensem, as a special case, in consideration of his heavier work and of the zeal he has displayed for the last two years; should this be more than can be sanctioned, I ask permission to grant him a gratuity. There are abundant savings under the heading contingencies in the budget provision for the establishment, from which either proposal can be met.

33. I should be also glad of authority to make a small money present to one or two of the most deserving vaccinators; such a premium would be a valuable incentive to exertion. As a body I cannot complain of the vaccinators, but some are much more zealous and painstaking than the others, and as the Superintendent has power to punish, it would in my opinion be advantageous, if he were also at liberty to reward in exceptional cases of industry and good behaviour.

34. I may now proceed to a review of the season's operations in each district; the lymph used was entirely of my own collecting. No English lymph was sent me this year, but I did not feel the want of it, as there are no signs of deterioration in the vaccine propagated from that furnished me by Dr. Charles towards the end of 1866.

35. *Darjeeling, Terai, and Western Doonars.*—The vaccinators were supplied by me with lymph at the end of October. I inspected the work at Phansedwah in the Terai on the 25th November; the vaccinator had established a good vesicle, but he was working slowly from feeble health. As he had been sometime in the Government service, I did not wish to dismiss him on this account, especially as he had retained a man who understood the work to assist him, but he had in a month or two to give up, and he ultimately died. His substitute continued to work until the end of the season.

36. The vaccinator at Julpigoree I found working with a doubtful vesicle, and I had to condemn the greater part of his November work. This happened in the absence of the Deputy Superintendent, who had not returned from leave, until a few days before my inspection. The people in this part of the country now look for vaccination quite eagerly. The vaccinator was easily supplied with genuine lymph from his neighbour at Mynagoree; and his work for the rest of the season was satisfactory.

37. Tarrachund, the vaccinator at Mynagoree, originally an inoculator, gave great satisfaction in the previous season. Colonel Rowlett, the then Deputy Commissioner, told me that he has observed his work with great satisfaction. During the season under report, he has been equally successful. He had made 200 vaccinations up to the 3rd December, the date of my visit, and I was much pleased with his cases. As the season advanced, his operations extended far from Mynagoree, and in the months of January and February he met with surprising success among the Mechis, who have great faith in vaccination.

38. Lymph was sent to the Nepalese vaccinator at Buxa, but he reported that, as last season, he could do nothing. The place being remote and scantily populated, the vaccinator was removed, and a little later in the season a man was placed at Falacutta who met with tolerable success. In case of emergency, this vaccinator could be easily sent to Buxa.

39. The vaccinator of Boda had, by mistake, gone to Rungpore, and had not joined when I was in that part of the country; he afterwards arrived, and his operations were favorably reported upon by the Deputy Superintendent. Like most of the other vaccinators, this man's operations have now been extended widely round his head quarters, and I propose transferring him next season to Titalyah.

40. *Rungpore.*—I inspected the work of all the vaccinators in this district in the month of December. Their stations were Thannahs Nisbutgunge, Mygunge, Oleypoor, Peergunge, and Bowanegunge (Kallygunge). This large district is quite underhanded, and the greater portion of it has never been visited by a vaccinator, but, for any thing like complete vaccination throughout my circle, the present establishment should be quadrupled. The native superintendent is a careful and diligent man, though he, as well as the other two officers of his grade, suffered much from ill-health during the season.

41. The vaccinator at Mygunge I found working with a genuine vesicle, but before my arrival, there were more doubtful cases than there should have been; he was a very intelligent man, but he resigned his appointment, as I could not grant him leave asked for, on the plea of sickness in his family, shortly after my departure from the district; a very efficient successor was trained and put in his place by the native superintendent.

42. The vaccinator at Nisbutgunge, a new man, was working with doubtful lymph also, shortly before I came, but this had been discovered and remedied by the native superintendent.

43. At Oleypoor I found the same vaccinator as last year. I saw a fair number of cases, but the man was not as careful with his records, as he might have been.

44. I next visited Bowanegunge; the vaccinator here had been very successful during November, and I saw and was pleased with a number of cases carefully registered; but, at the time of my visit, the people were suffering from visitation of cholera, and his operations were in consequence limited.

45. The vaccinator at Peergunge had only been entertained at the commencement of the season, but at the time of my visit he was in full work and with principally arm to arm operations. I traversed several large and populous villages without finding a doubtful case, and the inhabitants seemed to take a real pleasure in having their children vaccinated.

46. *Bograh*.—In this district the vaccinators were at the same thannahs as last year, with the exception of one transferred from Sherepore to the zillah station to fill the vacancy made by the dismissal of the dispensary vaccinator. The first I inspected was at Gobindogunge. This man had been taken ill at the beginning of the season, and had been removed to the zillah for treatment; he had recovered, and was at his post at the time of my visit, working very satisfactorily. His numbers fell far short of the work I had previously seen, but he declared, that this was caused by his own ill-health and not by any disinclination on the part of the people. On hot days, he told me, that he was solicited by the inhabitants of villages at a considerable distance from Gobindogunge to visit and work among them.

47. At Bograh zillah my vaccinator, an extremely intelligent and active man, had hundreds of cases to show me, in the very villages, where, two years before, not one would accept vaccination; I saw as many as 50 eight-day vesicles, representing a single morning's work.

48. This great improvement in the temper of the people is to be attributed to the exertions of Mr. Connolly, who, from the time of his appointment to the medical charge of the station, took great interest in the progress of vaccination, and, by performing himself the operation in many villages in his neighbourhood, entirely overcame the prejudices, which I found so strong during my first season.

49. I next inspected the vaccinator at Desbocheeschea; he was doing fairly. The vaccinator at Ketloll, I visited on my return from Rajshahye *en route* to Dinagapore; his average was much below the others in the district, but the villages here are more scattered than elsewhere.

50. *Rajshahye*.—As in the previous season, the work here did not commence satisfactorily. The vaccinators had been ordered to send one of their number to Bograh, to receive instructions as to the new form of return, and to take over lymph and instruments from the native superintendent; but it was not until the 13th November that he made his appearance, the truth being, that he was afraid to pass through Nattore where, just then, cholera was extremely virulent. The native superintendent, as soon as he had established the Bograh vaccinators at work, hurried on to Rajshahye, where but three of the vaccinators were at their posts, the other two pleading sickness. I had reason to disbelieve this statement utterly in the case of one of them whom I dismissed, the other I allowed to escape with a heavy fine. Pleas of sickness are so hard to investigate, that I have issued an order, that such shall not in future be received, unless supported by a certificate from a Dispensary Medical Officer.

51. Rajshahye not having a separate native superintendent, this is the second year that difficulties have been met with in getting the work properly set agoing. I hope to prevent the recurrence of this by ordering that all the Rajshahye vaccinators shall report themselves at Bograh to the native superintendent on the 15th of October.

52. In consequence of the delay there were but 85 vaccinations made in Rajshahye in November, and 556 in December. In the succeeding months, a fair average amount of work was done. The vaccinator whom I had to dismiss was replaced by the former dispensary vaccinator at Nattore, of whom all the Nattore officials spoke well. I should have found a place too for the Rampore Beaulah vaccinator, also a man of good character, but he unfortunately died of cholera at Nattore.

53. The vaccinators in this district were posted at Singra, Nattore, Pootea, and two at Rampore Beaulah. I inspected the work at Singra on the 15th January. The vesicle was good, but the vaccinator was working slowly, and he has not more than 50 recent cases to shew me. On my return, at the end of the month, he was making better progress.

54. At Nattore I found the vaccinator doing scarcely anything. His excuse was illness, and as he had done good work at this post during the two previous seasons, I received it, with some misgivings however. He had not attended to the instructions given him, of working exclusively of the town; he said, he could do no good among the residents there, and begged to be allowed to work as heretofore in the villages round. The dispensary vaccinator having been withdrawn from Nattore, this could not now be permitted.

55. On enquiring personally among the towns people, and from the Deputy Magistrate, I learned that there was a strong feeling in favor of the old dispensary vaccinator, and I was

glad to re-appoint him and transfer the other. The former commenced work towards the end of January, and in the following months the native superintendent reported most favorably of him, and of his success among the people of the town. This is gratifying, for I know of no place where small-pox or any other zymotic disease has so many facilities for mischief as at Nattore.

56. I found at Pootea a very good vaccinator; he had been like the rest late in commencing work, and had made only 197 vaccinations in December, but, on the date of my visit, the 19th January, there was nothing to complain of: he had done excellent work here in the previous season. I removed him to Rampore Bealeah, putting the former Nattore vaccinator in his place, who worked fairly until the season closed.

57. On the 22nd, I found the vaccinator at Bealeah working in the suburbs; I saw over 100 recent cases, and the vesicle was very good. This being a large town, I placed, as above stated, a second vaccinator here. Both have strict orders to confine their operations to the town. A fair amount of success has been attained, but nothing like what was achieved by either vaccinator at the mofussil posts they occupied previously. As I have already observed in a previous report, the people of towns, who require its protection most, are, of all classes, the most indifferent on the subject of vaccination.

58. *Dinagapore*.—All the vaccinators employed in this district were originally inoculators. They remained at the same stations as last year, but in the next season, the majority of them may be transferred to other thannahs, in of course the same district. They commenced work in November, during which month, in consequence of lymph failures in a few instances, not very much was done; the average being little over one hundred vaccinations for each man; but, in the following months, and up to the end of the season, their success was above the average of other vaccinators. I have complained, in previous reports, of the illiterateness and low character of inoculators as a class, but those I have now in employ, the remnant of very free weeding, I find to be efficient and trustworthy, and there is one among them whom I have already named, Tarrachand, whom I should not scruple to promote to the grade of native superintendent in case of a vacancy.

59. The first post I visited was at Nawabgunge; the vaccinator, who should have been here, I found next day at a large village called Mooktearpore, in the Chintamun illaqua. I saw a quantity of recent work, but of an unsatisfactory kind, there being many doubtful cases, and I had reason to be displeased with the man for not obeying orders in keeping the Police of his head quarter thannah aware of his whereabouts. He had not been visited by the native superintendent from the commencement of the season, but this could not have been helped as the latter had been sent to Purneah.

60. On reaching Dinagapore, I was joined by the native superintendent, whom I at once despatched to Nawabgunge. He had taken with him to Kudwah in Purneah the vaccinator from Nischintipore. I attach the returns of the work done there, on the authority of the native superintendent.

61. I visited in succession, towards the end of February, the vaccinators at Gungarampore, Hemtalad, and Hubbru Thannahs. They were all in full work with a good vesicle. These men were entertained during the previous season, and none of the places named had been before visited by a vaccinator. Now the confidence of the people in vaccination may be pronounced to be fully established.

62. I may bring this report, which has, I fear, extended to too great a length, to a close, with an account of the expenditure incurred and the results. The establishment has cost for the twelve months ending 31st March 1869, the Superintendent's salary, travelling allowances, and every item of expenditure included Rs. 15,602-10-10, so that each successful vaccination has cost a fraction over five annas.

63. The returns of the season's operations are appended in the new form. Table No. 1 gives the grand total of the cold weather's work; Table No. 2, the work done in Darjeeling during the summer and rains. The remaining tables show the operations for each month of the cold weather season, and the operations of the vaccinating party sent to Kudwah in Purneah.

I have the honor to be,

SIR,

Your most obedient Servant,

T. MATHEW, M. B.

Supdt. of Vaccination, Darjeeling Circle.

TABLE No. I.

VACCINATION UNDER SUPERINTENDENTS IN BRITISH TERRITORY.

TABLE showing the number and names of the Circles, and their Superintendents; the number of Vaccinators employed; the total vaccinations performed and compared with those of last year; the total number arranged according to sex, caste, age, and result; the ratio of successful to total vaccinated; and the average number of operations performed by each Vaccinator for the season 1868-69.

Number	CIRCLES.	Names of the Medical Officers, Superintendents of Vaccination	Period	Number of Native Vaccinators attached	Total number vaccinated	COMPARED WITH LAST YEAR.			TOTAL NUMBER VACCINATED—ARRANGED ACCORDING TO								Ratio per cent of successful number vaccinated	Average number of persons vaccinated by each Vaccinator.			
						1867-68	Increase	Decrease	Sex	Caste				Age		Result					
										Male	Female	Hindoo.	Mussulman	Ch. Rajpoot	Parsees	Other castes			Under one year	Above one year	Successful	Unsuccessful	Doubtful.
	Darjeeling	Surgeon T. Mathew M. B.	1st November 1868 to 31st March 1869	27	44,532	25,438	19,095	..	25,485	19,048	20,532	21,525	...	2,476	4,309	40,224	39,363	7	1,853	88	1,649

T. MATHEW, M. B.,
Supt. of Darjeeling Vaccination Circle

TABLE No. II.

Return of Vaccinations made in the Darjeeling Hills during the seven months ending the 31st October 1868.

MONTHS		Successful.	Unsuccessful.	Doubtful.	Unknown.	Total.	REMARKS.
April	1868	120	17	12	.....	149	.
May	"	205	53	11	.....	269	2
June	"	617	46	44	9	716	,
July	"	615	65	34	.....	714	.
August	"	476	61	39	4	590	.
September	"	510	50	39	.....	599	.
October	"	263	48	34	.....	345	.
TOTAL		2,806	340	213	13	3,372	

T. MATHEW, M. B.,
Supdt. of Darjeeling Vaccination Circle.

TABLE No. III.
RETURN of Vaccination, Darjeeling Circle, Season 1868-69.

NOVEMBER 1868.

Names of Districts.	Total Vaccinated.	SEX.		CASTE.			AGE.		RESULT.			REMARKS.
		Male.	Female.	Hindoo.	Musul- mans.	Other castes.	Under one year.	Above one year.	Successful.	Unsuccess- ful.	Doubtful.	
Tarai and Doars ...	615	350	265	398	217	.....	68	547	380	219	16	
Rungpore ...	1,483	969	514	677	776	30	140	1,343	1,361	91	31	
Bograh ...	748	366	382	212	534	2	99	649	589	121	38	
Rajshahye ...	85	47	38	1	84	.....	12	73	76	3	6	
Dinagpore ...	829	467	362	535	294	.....	12	817	625	153	51	
TOTAL ...	3,760	2,199	1,561	1,923	1,905	32	331	3,429	3,031	597	142	

T. MATHEW, M. B.,
Supdt. of Darjeeling Vaccination Circle.

TABLE No. IV.

RETURN of Vaccination, Darjeeling Circle, Season 1863-69.

DECEMBER 1868.

Names of Districts	Total Vaccinated	SEX.		CASTE.			AGE.		RESULT.		REMARKS.	
		Male	Female.	Hindoo.	Mu-sul-mans.	Other castes.	Under one year.	Above one year.	Successful.	Unsuccess-ful.		Doubtful.
Tarai and Doars ..	1,449	885	564	1,018	431	.....	187	1,262	1,128	280	41	
Rungpore ...	2,135	1,403	732	846	1,249	40	173	1,962	2,025	16	94	
Bograh ...	1,593	919	764	357	1,210	16	247	1,336	1,473	68	42	
Raishahye ...	556	297	259	155	393	3	47	509	451	81	24	
Dinagapore ...	3,690	2,088	1,602	2,363	1,327	.....	39	3,651	3,292	245	153	
TOTAL ...	9,413	5,492	3,921	4,739	4,615	59	693	8,720	8,369	690	354	

T. MATHEW, M. B.,
Suptd. of Darjeeling Vaccination Circle.

TABLE No. V.
RETURN of Vaccination, Darjeeling Circle Season 1868-69

JANUARY 1869.

Names of Districts.	SEX.			CASTE			AGE.		RESULT.		REMARKS.
	Total Vaccinated	Male.	Female.	Hindoo.	Mussulman	Other castes	Under one year.	Above one year.	Successful.	Unsuccessful.	
Tarai and Doars ...	2,351	1,394	957	1,245	500	606	266	2,085	2,071	202	78
Rungpore ...	2,399	1,448	951	1,521	747	131	474	1,925	2,178	84	137
Bograh ...	2,012	950	1,062	419	1,472	91	168	1,844	1,879	92	42
Rajshahye ...	1,240	683	557	106	1,100	34	124	1,116	1,035	173	32
Dinapore ...	3,227	1,791	1,436	1,899	1,325	.....	42	3,185	2,817	211	199
TOTAL ...	11,229	6,266	4,963	5,220	5,147	862	1,074	10,155	9,979	762	488

T. MATHEW, M.B.,
Supt. of Darjeeling Vaccination Circle.

TABLE No. VI.
RETURN of Vaccination, Darjeeling Circle, from 1868-69

FEBRUARY 1869.

Names of Districts	Total Vaccinated.	SEX			CAST			AGE		RESULT		REMARKS.
		Male	Female	Hindoo	Musul- man	Other Castes	Under one year	Above one year	Successful	Unsuccess- ful	Doubtful	
Taran and Dears	2,022	1,106	916	780	442	800	328	1,694	1,799	131	92	•
Rungpore	2,501	1,558	943	1,524	866	111	526	1,975	2,270	106	125	•
Bograh	2,108	1,115	993	836	1,753	19	271	1,837	1,940	117	51	•
Ray-bahye	1,591	910	681	284	1,307	...	126	1,465	1,387	163	41	•
Dmagpore	2,758	1,590	1,168	1,632	1,126	...	21	2,737	2,412	188	158	•
Total	10,980	6,309	4,671	4,556	5,494	930	1,272	9,708	9,808	705	467	•

T. MATHEW, M. B.,
Suptl. of Darjeeling Vaccination Circle.

TABLE No. VII

RETURN of Vaccination Dispensing Circular 5 of 1888-89
MARCH 1890

Names of Districts	Total Vaccinated	SEX		CASTE			AGE		RESULT		REMARKS
		Male	Female	Hindoo	Muslim	Other Castes	Under one year	Above one year	Successful	Unsuccessful	
Tarai and Doars	1,515	873	642	939	290	277	138	1,377	1,277	110	128
Rungpore	1,688	1,141	547	815	861	12	406	1,282	1,351	54	53
Bugrth	1,906	1,023	883	194	1,638	74	254	1,652	1,744	115	17
Rajshahye	1,587	870	717	389	968	230	120	1,464	1,418	120	49
Dinapore	2,150	1,168	982	1,064	586		17	2,133	1,917	127	106
TOTAL	8,846	5,075	3,771	3,901	1,352	593	938	7,908	7,907	556	383

DARJEELING CIRCLE.

T. MATHEW, M. B.,

Stationer of Dispensing Circular

TABLE No. VIII.

RETURN of Vaccination at Thannah Kudwah, Zillah Purneah, for January 1869.

Names of Thannah and Zillah	Total Vaccinated	Male	Female	Hindoo	Musulman	Other castes	Under one year	Above one year	Successful	Unsuccessful	Doubtful	REMARKS
Kudwah, Purneah	85	49	36	85	..	.	...	85	70	6	9	
TOTAL	85	49	36	85	...	...	...	85	70	6	9	

TABLE No. IX.

RETURN of Vaccination at Thannah Kudwah, Zillah Purneah, for February 1869.

Names of Thannah and Zillah	Total Vaccinated	Male	Female	Hindoo	Musulman	Other castes	Under one year	Above one year	Successful	Doubtful	Unsuccessful	REMARKS
Kudwah, Purneah	220	95	125	208	12	...	1	219	199	11	10	
TOTAL	220	95	125	208	12		1	219	199	11	10	

T MATHEW, M.B.
Supt of Darjeeling Vaccination Circle

No. 189.

FROM

THE SUPERINTENDENT OF VACCINATION,
RANCHEE CIRCLE.

TO

THE DEPUTY INSPECTOR GENERAL OF HOSPITALS,
INDIAN MEDICAL SERVICE,
DINAPORE CIRCLE.

Dated Ranchee, the 19th May 1869.

SIR,

I have the honor to submit herewith the Annual Return of Vaccination in this circle for the past (being the second) season, 1868-69, drawn up in the new form prescribed by the Inspector General of Hospitals, Lower Provinces.

2. Up till the end of last (the first) season, no native superintendents had been appointed, owing to the want of suitable men; in the recess, numerous enquiries and attempts were made to obtain such men within the circle, but none could be found. Considerable qualifications are necessary for the post; good health and energy, tact and education, thorough trustworthiness, and a complete knowledge of the practical working details, and of the system of supervision to be carried out. At last application was made to Dr. Pearson, Superintendent General of Vaccination in the North-Western Provinces, at whose request Dr. Watson, Superintendent of the Allahabad and Jhansi Circle, was kind enough to send down three of his best vaccinators whom he could recommend and was anxious to promote.

These men joined me as native superintendents at the end of October, two of them, Mahomed Ishak Khan and Shaukh Ellahce Bux, have rendered most valuable assistance; they understand the work extremely well and have shown much zeal and activity. I have a high opinion of them.

The third, Meer Mendhie Hossein, also knew the work well, but in other ways his appointment has not proved so successful.

3. There were many vacancies also among the sanctioned staff of twenty vaccinators; some had been discharged as unsuitable and others resigned as soon as they found that they would be required to work in any part of the circle wherever it might be necessary to send them. It was desired to fill these vacancies with local men, as being likely to have some influence with the people, and especially with some of the local inoculators, who otherwise would certainly be most active opponents.

Moreover, other candidates, of fair education and really desirable men, were hard to find in sufficient number locally; I was therefore glad to fall back on the Sindooriahs, to whose employment, however, it is a great drawback, that they are quite uneducated and totally unable to keep up the necessary records.

A few of them had been employed in the previous season with some success, and now ten more were engaged, so that eventually out of our twenty vaccinators, thirteen were Sindooriahs.

4. As, however, was the case in the Darjeeling Circle, in the season 1867-68 (Dr. Mathew's Report), it has been found here too that the local inoculators are, as a rule, not a very desirable class of men to turn into vaccinators, if other and better candidates could be found.

Many of them are lazy and deceitful, apt to absent themselves from their work without leave, and to make false reports of their work; being altogether unsatisfactory and not to be trusted. Instances have been found of their taking bribes from villagers *not* to vaccinate and to go away without teasing them, reporting of course that, owing to the prejudice of the people, no work could be done, when really they had made little or no efforts at persuasion, though at the same time the fact of the villagers being willing to pay for exemption from vaccination sufficiently proves the reality of their dislike.

It has been necessary to dismiss five of the Sindooriah vaccinators for gross misconduct.

Four of them, however, have really worked energetically and taken much pains.

The remaining four Sindooriahs have done more or less fairly only.

5. They undoubtedly have influence with the people within their former special beats as inoculators; but it is impossible so to arrange the parties that every man shall work in his own former beat; and out of their own limits they seem to have no greater influence than other people. Moreover, under such circumstances they are apt to be sulky, and to make no effort to get cases.

6. Under instructions from the Inspector General, it was determined to occupy only one zillah, at first at any rate; the circle being too extensive for supervision to be kept up in all the zillahs at once. Hazareebagh seemed to me the best district to begin with, because all the Sindooriahs engaged belonged to it and thus whatever influence they had would be made useful. Moreover, they were not likely to work contentedly if sent far from their homes; remembering, as I did, that they could leave at any moment and revert to inoculation (which there was no legal means of stopping) if disgusted with their new service.

7. Leaving Ranchee on the 26th October, my camp reached Hazareebagh on the 30th, where the three native superintendents had just arrived, and all the vaccinators now assembled. Some days were spent in distributing the men into parties, teaching the new hands, procuring various articles of equipment necessary for the men according to the plan followed in the North-Western Provinces, with which the native superintendents were familiar, also preliminary arrangements concerning the remittance of pay, &c., &c. Vaccination was begun at the mission, and among certain Christian villages, a little way from Hazareebagh, with some English lymph sent up from the Inspector General's Office in Calcutta, in September. When received, the weather was extremely hot, and doubtless the lymph had got spoilt on the road, for though kept with all the care possible it was now found to fail completely. Meanwhile, some fresh supplies came from Almorah, for which, in case of such accidents, application had been made to Dr. Pearson, and these as well as the supplies sent subsequently proved excellent.

A small supply was also received from time to time from Dr. Charles, Superintendent General of Vaccination, Lower Provinces, nearly all of which answered well.

8. The men being distributed in three parties, one party under Native Superintendent Ellahee Bux was set to work a few miles east of Hazareebagh round Bohrunpoor; another party under Native Superintendent Mendhie Hossein was sent north to Pergunnah Koderma; and the third under Native Superintendent Ishak Khan to the north-east to Pergunnah Khurruckdiha.

9. The system of registers and records adopted was as nearly as possible that followed in the North-West, but with one important difference. Very few of our men can read or write, it being impossible therefore for each vaccinator to keep up his own registers; it was necessary that each party should work together, and should contain one man (or more) of education who could write for all. Of course by so doing, his own opportunities of vaccinating would be much lessened, but this could not be helped.

10. At first I remained among Ellahee Bux's party and work was beginning to go on better, when at the end of November an outbreak of small-pox, said to be very fatal, was reported by the Police and Civil authorities to have occurred at Etkhooree, some 30 miles west of Hazareebagh. Arrangements were at once made for Ellahee Bux's party, being the nearest, to proceed there, some men going forward at once, others following after taking lymph from cases in progress.

My own camp reached Etkhooree on 4th December, when I found that no small-pox had occurred, after every enquiry. Attempts to vaccinate here were most unsuccessful. With all the aid of the Rajah, who did his utmost, only two children were done successfully, and a long time after I heard that people still visited the children daily to see how soon they would die. Some of the people had told me when there, that any illness occurring within two years or even within many years would be attributed to the vaccination, others more reasonable thought that perhaps twelve months' probation would be sufficient. All were most fearful and suspicious.

After much waste of time by this false alarm, the party moved back to their former neighbourhood, and a request was made to the Police authorities to guard against such false reports from their subordinates in future.

11. My own camp now moved to the north-east in search of Mendhie Hossein's party, whom I found at Domchach, whither he had moved them from Koderma, where no work

could be got. On the road I saw certain zemindars (including the Rajah of Rampore) who, however, in spite of every argument, could not, or would not, promise any effectual aid to the work. There was often also very great difficulty in obtaining the barest necessities of life, the people often refusing supplies altogether even though ample payment was offered; at one time it seemed quite likely that my camp and myself would be starved out of the district and have to throw up the work.

Even with every aid from the Civil authorities, similar difficulty several times recurred afterwards; though usually the zemindars did not openly refuse assistance, but secretly obstructed to the utmost, not only in the matter of getting supplies, but as regards vaccination, in fact I believe they often put difficulties in the way of the former in the hope of driving my camp away and avoiding thereby the infliction of the latter.

12. With this party, I staid some little time, and, notwithstanding great reluctance of the people to let their children be seen, several villages were inspected, and the work done for beginners found to be satisfactory.

The native superintendents also, though in much less degree than myself, were very unwelcome visitors in the villages, and often vesicles were purposely damaged, and crusts torn off before inspection, to prevent my men from taking vaccine.

13. While with this party my own health, which had long been weak, became very unsatisfactory, and continued so up to nearly the end of the season. The constant marching over often difficult country, the continual opposition met with, and the daily difficulties in making the various strings pull together, were very harassing; this ill-health made it impossible for me to move about so rapidly or to do so much inspection work as I should have otherwise wished, I should even have reported sick, but that I knew it would be a matter of great difficulty to relieve me, and that, if relieved, it would be hard, at first, for a new comer in the middle of the working season to pick up the threads of the various local arrangements. I therefore thought it right to remain at my post, and to keep the work going to the best of my power.

14. Leaving Mendhie Hossein's party on December 23rd, my camp moved eastward to Ishak Khan's party in Pergunnah Khurruckdiha, with whom I came up at Ghorrunjee, taking every opportunity on the road (as I did throughout the tour) of seeing the principal native gentlemen, zemindars, &c, and endeavoring to interest them in the work, but with usually, I fear, but very poor success. Indeed I have reason to think that often my personal efforts in this way did more harm than good; the influential non-official natives seem to dislike having anything to do with European officers, and to be anxious to do nothing (such as affording aid to vaccination) which might encourage such visits being repeated.

My men were often told in villages the more friendly to vaccination that they might operate provided they did not bring any *Sahib* afterwards to look at the cases and bother them, but that if any *Sahib* was likely to come, they should not vaccinate.

In every case it was found that, without the countenance and active aid of the zemindar or his agent, all attempts to argue with the villagers themselves and to persuade them to accept vaccination were a perfect waste of time. Sometimes the influential natives, though declining to assist actively, yet said that they would not oppose the work; the ryots might accept it if they liked, in such cases the village people invariably refused.

15. At Ghorrunjee the tekait (in whose villages were some 600 to 800 children uninoculated I was told) appeared most friendly, and gave me much aid in every way, declared it was his earnest wish to encourage a thing which he saw well the Government desired so much, promised that he would smooth every difficulty at once, and fixed a day in the following week for two of the larger villages to be vaccinated, whose example the others would at once follow, and I knew too that several other tekaits would follow the action of this man, whose example therefore was most important.

16. This arrangement being happily made, I proceeded to inspect work of Ishak Khan's men to the southwards; their work had been too much spread out, over some 50 miles or more of country, a most inconvenient plan, but often impossible to avoid. The villages, however well disposed, *will not* have vaccination done except at the times convenient to themselves and to their tillage and pooja arrangements. Often a group being done, one or two villages stand out for two or three weeks' delay till *their* lucky day arrives, and the vaccinators must meantime go a long way perhaps to get work, and afterwards come back to finish the recusants, or else leave them altogether. Often several villages, widely remote from each other, fix on the same day or on two days so near together that it is impossible for the men to

get from one to the other by the time fixed. Thus I went down towards Kurhurballee on the branch of the new chord line of railway, seeing work on the road, and found the men's work on the whole successful, some of the cases being extremely good, especially in villages round Pachamba, and some places near Bhundareedeeh, nine miles east thereof, close to the new railway. Here the resident Railway Engineer had rendered much assistance by the influence he possessed with the people round. Some of the villages seemed never to have been visited by inoculators.

17. Turning northwards again from Bhundareedeeh, I had intended to have gone back to Mendhie Hossein's party, but news reached me that the Tekait of Ghorrunjee had, directly my back was turned, broken his promises and refused all aid to vaccination, which consequently had not been carried out. I determined, therefore, to go back to him again and see if anything could be done; taking a somewhat different route, I was able to take in on the road some more villages which had been done by Ishak Khan's men, and on the way camped one day near a large village called Mirzagunge; here the people were most hostile. A man belonging to my camp passing quietly through the bazaar heard some one call out—"Here is the man who scratched the boy's face." An excited crowd collected who seemed inclined to be violent, and a boy was brought forward who showed a cut on his forehead which he said had been inflicted by one of the vaccinators who had taken him down to the bank of the nullah by himself, and there cut his forehead with a sharp instrument. Fortunately for the accused, the boy on being confronted said that this was not the man, and he was then let go and returned to camp in the greatest alarm. The matter was reported to the Police at Kharruck-diba, but no clue could be found to the author of this absurd story, which no doubt had been invented by some malicious persons with the view of bringing odium on the vaccinators, and if this was their design it succeeded admirably; the rumour spread and frightened the people all about, doubtless in connection with the popular idea (similar to those which were current last year), that we wanted to extract drops of blood for magical purposes, or for sacrifice to ensure the success of the new line of railway and of the bridge now building over the Buriakur.

18. At Ghorrunjee I found that the people entirely refused vaccination, saying they had had no instructions from their tekait or zemindar, without whose approval nothing should be done, but that if obtained they were willing. With him I could not get another interview; he sent various absurdly false excuses to avoid seeing me by his agent or karpaidaz, who, however, declared perpetually that his master and himself had done all they could to persuade the people and that it was the latter who refused; this, I believe, was totally untrue. It was evident, however, that nothing could be done, and I determined to return to Mendhie Hossein's party, meanwhile writing to the Deputy Commissioner to ask the aid of his efforts at persuasion in this and similar cases.

19. My camp left Ghorrunjee on January 25th, marching towards Domchah again. On the road, as at Ghorrunjee, I found much more difficulty as regards supplies, &c., on my second visit than the first time. The tekait and their karpardazes were evidently annoyed at my coming again, and made endless excuses to avoid giving assistance in any way. I made particular enquiries as to whether any of my people had given any cause for complaint on the former journey. The tekait and headmen said none. Everything had been fully paid for, and there was not the slightest complaint, but the people were frightened, &c., &c. It was often asked "Why did I want to come so often? the district officers did not come more than once in the year. They had helped me once and could not do it again. It gave trouble and the people did not like it, and so on."

20. On the way to Domchah great complaints were brought against Mendhie Hossein by his men of extorting fees from them, &c., and all work had been stopped for several days; they refusing to work until they had obtained redress, which they came to seek.

• On reaching him at Domchah he recriminated upon them. After much investigation many of the charges made could not be proved, and the other differences were arranged. Such bitter feeling, however, existed that it was obvious they could never work together again. Moreover, on minutely examining his pay book, and comparing his various statements, so great irregularity and discrepancy were discovered that confidence in his integrity was much shaken, and I should have discharged him at once, but that in the middle of the season his services could not be spared, the work which had already been much interrupted would have been still more seriously hindered. He was therefore ordered at once to go and relieve Ellahee Bux in the charge of the southern party at Rangurh below Hazareebagh, the latter native superintendent taking the Domchah party in exchange. This change involved serious hindrance to the work, but seemed to be the best arrangement possible under the circumstances. Ellahee Bux was instructed on arrival to make his head quarters at Jynuggur, further to the south, and

to finish the inspections left necessarily by Mendhie Hossein incomplete. Meanwhile I was anxious to see some of the villages done since my previous visit, but was deterred from doing so by the assurance that it would at once put a stop to all work. It was obvious that this might be a pretext on the part of the men to prevent imposture on their part being detected, but I was aware from my own knowledge that my previous visit had had the effect in several places of stopping the continuance of work then in progress, and both then and subsequently the assertion was confirmed by information from many independent sources, native gentlemen, both official and non-official, as well as the native superintendents, indeed long before I had been warned that this might probably occur by Dr. Delpratt, the experienced Civil Surgeon of Hazareebagh.

Subsequently it was found that three of the men of this party made grossly false returns, and they have been fined and dismissed. The other reports of work done were found to be accurate.

21. Being thus foiled near Domchah I thought it best to work to the south-eastwards so as to join Ishak Khan's party again at Khurruckdiha, thinking that with them inspection might be less difficult.

Here I may mention that having occasion to send an urgent message to Ishak Khan, the special messenger (a kahar) was questioned on his way as to his business, and whence he came; at several places as soon as the villagers found that he was from my camp they were most uncivil to him, and in some he was driven out of the village, fire and food refused to him, and he had to lie out in the fields with nothing to eat but uncooked rice.

It is not surprising that my men positively refused to be employed on such special messages in future.

22. On the road an instance occurred of a tekait openly ordering his bunniahs not to furnish any supplies; and in another instance they hid themselves away and nothing could be got, doubtless by their tekait's direction, though he and his karpardaz denied it.

This opposition occurred often, it would be tedious to mention every instance, so I only allude it now to show the general feeling of the people.

23. February 9th, on leaving camp Khesmee a report reached me of outbreak of small-pox near Semeria, to the south-west of Hazareebagh. From comparing dates the disease must have existed for some time previous, probably fourteen days or more. Throughout the tour, I may mention, the greatest difficulty was found in maintaining regular dāk communication with the native superintendents and others.

Their reports often took many weeks on the road, and one of my letters to the Deputy Commissioner even did not reach him till nearly seven weeks had elapsed, and the contents had become useless.

Orders were at once sent to Mendhie Hossein (who it was supposed must about then have joined the party at Ramgurh), being the nearest, to move up his men without delay to the infected place.

24. My camp reached Khurruckdiha on February 12th, here I found Ishak Khan, who had by great exertion succeeded in inducing the people of that considerable town to accept vaccination, which had (unknown to me of course) been fixed for the very day of my arrival. My disappointment therefore may be imagined at finding that, on hearing of the approach of my camp, the people had changed their minds and now refused entirely.

The absurd story from Mirzagunge had frightened them, and they were encouraged to refuse by the successful resistance of the tekait of Ghorrunjee.

The news of my return at once confirmed the waverers in their objections, and notwithstanding every aid of the Inspector of Police, who took opportunities of explaining to the people the groundlessness of their fears, and of the Moonsiff who did the same publicly in the kutcherry, nothing could be done.

25. It now was reported to me that some of my men, whose homes were on the Ghorrunjee tekait's estate, had been threatened by him that he would turn them out of his illaqua altogether if they continued vaccinating as Government servants. This was duly reported by me to the Deputy Commissioner.

26. Every effort to get vaccination done here being exhausted in vain, I was anxious to inspect some more of the villages that had been already done. Here however the same objections were raised as near Domchah.

I had no doubt of their truth for the reasons already given; and moreover the same men had not in any way endeavored to escape inspection during my former stay with the party, but on the contrary courted it. Yielding therefore to what seemed to be necessity, I determined to forego seeing the villages now, hoping to visit them again at the end of the season. I was fully conscious that it could not be expected that the Sindooriahs would omit to take advantage of such opportunity for inposition if they found that their reports were accepted without inspection. It was therefore insisted that, at every sacrifice, even though work should be stopped entirely, every case entered must be actually seen by the native superintendents, or it would be excluded from my returns. The people made difficulties about them too to a very great extent, but were much less averse to them than to Europeans. The native superintendents could never tell where or when I should reappear, and consequently the villages taken at random and seen by me may be considered fair specimens of the work of the respective parties.

The native superintendents' returns were found by me in every instance to agree strictly with the work inspected.

Eventually it was found that two Sindooriahs of this party *did* make false returns; and they were fined and dismissed accordingly.

27. Leaving Khurruckdiha therefore my camp moved towards Semeria at the opposite corner of the district to the south-west. On the road I saw the Manager of the Dhunwar Rajah's estate (which is under the Court of Wards), and enlisted the aid of his influence at Khurruckdiha which is in the Dhunwar illaqua, this he readily gave, and eventually the consent of the people was again obtained by Ishak Khan, and though the weather was then so hot that it was not thought advisable to vaccinate generally, a few were done, just to show the people by the result that no harm was intended to them, and the rest left till next season, the reason being explained to them.

28. My camp reached Semeria on 2nd March; I found that some of Mondhie Hossein's vaccinators had reached that place on February 22nd. It appeared that some eight or nine deaths had occurred in village Kentia. On their coming all those unprotected in that village, and in one other village near, were vaccinated, and no more cases of small-pox occurred. The people in those two villages were rendered more willing, probably by fear of the disease, and their zemindar was friendly. All the neighbourhood around, however, obstinately refused, though several days were spent in endeavoring to persuade them.

29. Mendhie Hossein's party were instructed to move back to Chitterpore, beyond Ramgurh, where work still could be got probably, and meantime on March 6th, I started north-eastwards towards Jynuggur to see the work of Ellahee Bux's (new) party.

On arrival there some delay occurred in collecting the men who had from circumstances been too widely scattered, which caused much inconvenience. The work of this party was brought to an end, owing to the heat, on the 19th of March.

That in the other two parties unfortunately went on a few days longer; indeed it should have been stopped sooner in all three, but owing to the difficulty about the daks the instructions to the native superintendents did not reach them in time. Towards the end nearly all the cases failed or were doubtful, thus bringing down the percentage of success considerably.

The heat had also interfered with success in a part of February, though afterwards some storms had cooled the air again; and recourse was largely had to crusts from Almorah.

30. A number of villages done by the Jynuggur party were examined, and the camp moved southwards on March 26th, more villages being inspected on the road. Jynuggur was one of the places where cordial assistance was rendered by Dowlut Singh, the Agent of the Rajah, and Akbar Ally Khan, the Illaquadar; the people therefore made but little difficulty.

31. Below Hazareobagh I again met the work of the Ramgurh party (now under Mondhie Hossein) and several of the villages were inspected, after which the camp moved towards Ranchee (the hot wind having now for some time been blowing fiercely), which I reached early in April. This party had received very great assistance from Golam Rusool, the Zemindar of Chitterpore, whose aid was most valuable.

32. On reviewing the proceedings of the season it was evident that Mendhie Hossein's conduct had shown decided apathy in the work, and that his general management of his men was by no means successful. The affair at Domchah too caused misgiving in my mind as to his honesty in money matters.

It seemed clear that he was not a fit man to have charge of a party, and that keeping him on would cause much future difficulty, and hinder the progress of the work. After consulting, therefore, the officer who sent him down, and who took the same view, he has been discharged, application will be made to Dr. Watson for a fit man to succeed him.

33. The return shows a total of 7,904 cases, against 6,447 last year, being an increase of 1,457, and considering the decidedly unfavorable attitude of the people at large in the Hazareebagh zillah this result seems to be not unpromising.

The cases known to be "successful" number 4,618, being a percentage of 58.42 on the total number; but in a number of cases, viz., 763, from unavoidable circumstances (such as the sudden move of Ellahee Bux's party to Etkhooree, many of the Christians at Christmas returning at once to their widely scattered homes, the mothers often running off into the jungle to hide their children from inspection, &c.) the result could not be ascertained, though no doubt many of them too were "successful."

34. If we exclude these "not ascertained" the "successful" will form 64.66 per cent. of those (7,141) whose result is known. This percentage of success is less than that in the return of last year, but in explanation of this should be considered the unfavorable effect of the unusually hot season (see para. 29 above), and the fact that many of the vaccinators were quite ignorant men and new to their work. Also last year the circle was still worked in two of the zillahs on the old dispensary system; so that, I believe, it was impossible for more than few of the cases there to have been verified, and probably had they all been seen, the last year's percentage of success would have been lessened. It is impossible therefore to place the two seasons' results on equal terms for the purpose of comparison.

Assuming then, as we may fairly do, that a similar proportion were "successful" out of those "not ascertained," as in the case of those whose result is known, we shall have to add on 493 to the "successful," which would bring the total "successful" up to 5,111, (out of 7,904, the total number of cases). I think that in assuming such a proportion of those "not ascertained" to be successful we shall probably not exceed the mark, as many of the unknown results were among Christians who had been vaccinated "from arm to arm" and the results therefore probably were much more successful than the general average of the whole work of the season.

35. "Arm to arm" vaccination was also attempted among other classes at different times, but, (with one exception, in a village near Pachamba, where the people seemed to know nothing of either vaccination or inoculation), such an outcry was invariably raised, and even violence threatened to the men, that it could not be carried out.

I have the honor to be,

SIR,

Your most obedient Servant,

E. J. HOSKINS, M. D.,

Supdt. of Vaccination, Ranchee Circle.

FROM

THE LATE OFFG. DEPY. SUPDT. OF VACCINATION,
SONTHAL PERGUNNAHS.

To

THE DEPUTY INSPECTOR GENERAL OF HOSPITALS,
DINAPORE CIRCLE

Dated Rajmehal, the 25th May 1869.

SIR,

In submitting the vaccine report of the Sonthal Pergunnahs for the season 1868-69, I beg to state that I cannot give a full report as required, owing to a late period at which I joined my appointment and my total inexperience in the Department.

I joined my appointment in the middle of March when the working season was about to expire. I at once began to inspect the workings of the vaccinators and to induce the heads of villages to adopt vaccination in the district of Deogurh. I had not been a fortnight there when I was called upon in the district of Godda to check an epidemic of small-pox which broke out at that time.

I joined the scene of operation on the 7th April with my whole staff, but could not commence the operations until a few days later.

No vaccination has ever been performed on these people before. One vaccinator was sent last year to try vaccination on them, and in his attempt he fell into such a dangerous position that his life was even threatened, and he was obliged to return unsuccessful. Hence the difficulty I encountered on the onset may easily be conceived.

The principal objections existing amongst the Sonthals is their superstitious impressions of the existence of witches (phookshins) to which they attribute the present outbreak of small-pox. They believe that these devils by some unnatural power transmit the contagion from one person to another, and it is their firm belief that inoculators only possess the power of remedying this evil.

These objections, untenable as they are, were soon overcome, and their superstitious fears were dispelled off by mere persuasion. The people were so much alarmed at the progress the disease was making, and the dreadful result arising from inoculation that they at last submitted to the operation.

The vaccinators were then distributed to different directions, and thus within a few days I was able to put a stop to the epidemic. The success resulting from the first few operations removed all their fears and contributed to establish a faith amongst the Sonthals, and thus opened the field for the ensuing year. Village after village was operated on; no difficulty was experienced in procuring lymph and in carrying on the arm-to-arm operations and we were permitted to re-vaccinate the unsuccessful punctures. The cases were brought up for inspection readily; the villagers were friendly with the vaccinators and the vaccinators worked willingly and cheerfully. Hundreds flocked to the bungalow for medical advice and treatment.

Thus our work thrived prosperously for a few days only. At the end of the month, the heat became so excessive that the result of the operation was in most cases either unsuccessful or doubtful, and the appearance of diarrhoea and dysentery among the vaccinated compelled me to stop the operation.

Small-pox occurred among ten cases after vaccination, the disease showing itself after the first week of operation; two cases proved fatal, the small-pox being of the confluent variety. Small-pox had, at that time, attacked several members of the family, in the same house, so that it is evident the system had imbibed the poison prior to vaccination; for, as soon as the vaccine pustules showed themselves thoroughly formed, a good crop of small-pox eruption immediately followed. The other cases recovered without disfigurement of any kind.

I regret that I had not an efficient staff of vaccinators. Their zeal for work and their conduct on the whole were not so satisfactory as is desirable, with the exception of one. He worked with the greatest attention and zeal, his number exceed twice as much as those of the others put together.

Of the five vaccinators attached to the department one was quite unfit for the post, and was therefore dismissed at the end of the season; the other, a Hindoostanee behaved very impertinently. He was very negligent to his duty. An especial report against him was forwarded.

A general feeling of discontent and murmurs were displayed by the vaccinators as to the insufficiency of their pay; their batta and travelling allowances having been discontinued since the last year. Their scale of pay varies from Rs. 8 to 12 a month, which is quite insufficient when compared with the nature of the duty they have to undergo. There is no prospect to serve as stimulus to their exertions. Under such circumstances the services of the best and most experienced of the vaccinators are not expected to continue.

In conclusion I beg to tender my best thanks to Mr. Blumherdt, the Assistant Commissioner of Goddah for the assistance I received at his hands.

Vaccine Return for the Season 1868-69.

SONTHAL PERGUNNAHS.

YEAR 1868-69.	TOTAL.	CASTE.				RESULT.				Re-vaccinated.
		Hindoo.	Mahomedan.	Sonthal.	Pahariah.	Successful.	Unsuccessful.	Doubtful.	Unknown.	
November ...	278	274	4	...	...	236	42	...	...	112
December ...	1,029	973	56	...	...	804	211	...	14	125
January ...	745	600	82	63	...	733	1	...	11	78
February ...	652	459	26	167	...	634	11	7	...	74
March ...	475	394	10	71	...	472	3	...	...	48
April ...	752	47	49	649	7	642	82	13	15	261
GRAND TOTAL ...	3,931	2,747	227	950	7	3,521	350	20	40	698

I have the honor to be,

SIR,

Your most obedient Servant,

GOPAUL CHUNDER DEY,

Sub-Assistant Surgeon,

Late Offg. Depy. Supdt. Vaccination, S. P.

RAJMEHAL;

The 25th May 1869.

N. B.—The returns of the first four months are given as in the records of the vaccinators, and I cannot certify to their correctness.

REPORT

ON THE

EMPLOYMENT OF SUB-ASSISTANT SURGEONS AS SUPERINTENDENTS OF VACCINATION.

1. From time to time Sub-Assistant Surgeons have been employed in various capacities in the Vaccine Establishment under different grades, and on various occasions opinions adverse to their employment have been put on record.
Reasons for submitting the report.

Repeatedly it has been brought to the notice of the Government of Bengal that the Sub-Assistant Surgeons employed in the Presidency Vaccine Establishment have discharged their duties as Superintendents of Vaccination not only faithfully, but with energy and ability, and three of those at present in the establishment have received the thanks of Government for the efficient manner in which they have discharged their duties. Sub-Assistant Surgeons have also been employed in vaccinating in Bengal who have not been attached to the General Vaccine Establishment, and they have failed, more or less, to perform what has been expected of them.

As it is judged to be of considerable importance that this class of officers should be employed as Superintendents of Vaccination, the following report is presented with the view of assisting the Government under these complicating circumstances to arrive at somewhat definite conclusions.

2. The duties to be performed by these Superintendents are by no means easy ones. They are sent among a population who know nothing of vaccination and are told to vaccinate them. The people among whom they are to work hold very fixed beliefs regarding protection from small-pox, one portion of the population for long ages having been accustomed to protect themselves by means of inoculation, while the other have been accustomed to refuse such protection. Among a simply indifferent population rapid progress might possibly be made without great difficulty by only making known the benefits to be derived from the practice of vaccination. Among a rigidly prejudiced population the case is far different, and difficulties are met with in each separate village, in some cases in every hut even in the village. Those who inoculate refuse vaccination, as they have over confidence in their own form of protection, and as they have been accustomed to employ certain religious rites in connection with the practice, they find it all the more difficult to adopt another form of protection. Though in itself inoculation is not a religious act, yet its performance has always been so much mixed up with religious ceremonies as not to render it easy for them altogether to disassociate it in their minds from the idea of religious observance. Then, again, those who have determined not to practise inoculation, but have on system resolved to trust to the goddess of small-pox sending them a spontaneous attack in a mild form, also have religious feelings brought into play when they are asked to avail themselves of the alternative protection afforded by vaccination, and oppose those attempting to overcome their scruples with a tenacity which is most surprising.
Nature of the duties of a Superintendent of Vaccination.

When these two classes have been persuaded one by one, or village by village, as the case may be, very many of those who were most energetic in refusing vaccination will doubtless from the force of habit be just as zealous in seeking for vaccination when it is placed within their reach, but even among these there is a class, and a very large one, by whom great trouble will be occasioned when nothing more than apathy prevents their coming forward

readily. This mere indifference is one of the most difficult forms of opposition to overcome, and to combat it successfully a thorough knowledge of the people, perseverance, and firmness are requisite.

Besides this, on the Superintendent devolves the management of considerable numbers of vaccinators, and the task of keeping them all contented and providing that each of them gives a full quantity of work, requires the exercise of the powers of a mind trained to business habits.

The duties of a Superintendent necessitate his being constantly on the move. He is unable to have any fixed residence, and cannot even for a week take a lodging in any village in which the vaccinators are working. As soon as the week's work of one gang of vaccinators has been inspected, he has work waiting for him among another gang, and two or three days at most are all that can be spent in any one place. This perpetual movement, entailing, as it does, absence from their families and separation from their friends, is necessarily most distasteful and in many cases proves so unbearable as to lead those thus employed to throw up the public service, rather than submit to the life to which they are subjected by remaining in it.

3. Considering the onerous nature of the duties required of them, it does not seem difficult to understand how young Sub-Assistant Surgeons find themselves quite unable to overcome the obstacles they every day meet with, and are lost in despair at finding they have been sent to persuade people to be vaccinated who will not listen to them; that the vaccinators placed under them are unruly and that they cannot exercise an effective control over them; while the life of isolation and hardship is one which is quite unendurable to them.

4. The decision of character and powers of persuasion necessary to constitute a Sub-Assistant Surgeon a successful Superintendent of Vaccination are rarely met with in any one under thirty years of age. A youth fresh from college, however able he may be in answering examination papers, is so ignorant of how to transact any business matter, that he is unfit for the responsibilities of a Vaccine Superintendent.

By the experience of the world gained while in the junior grades of the public service, he improves much, and the general training he receives while thus serving assists him materially should he ever be required to take charge of a Vaccine Establishment.

It is difficult to judge how a young man will turn out after leaving college and whether he will be possessed of the steady application to his duties, without which he will prove worthless as a Superintendent of Vaccination, while after having been under observation for a few years his capacity for real work can be more correctly estimated. While making a requisition on the Head of the Medical Department for Sub-Assistant Surgeons to fill up vacancies in the Vaccine Department, it is stipulated that those he nominates, besides being men of known character, should belong to the second grade, and thus be between seven and fourteen years' service, and that they should have served in the Punjab. To the last requirement considerable importance is attached, as absence from Bengal and employment at a distance from their houses is found to give an amount of self-reliance and a power of putting up with much that is not pleasant which it is difficult to obtain in those who have never left their native province.

5. A great mistake has been made and is still sometimes committed in supposing that any Sub-Assistant Surgeon will accept the bare pay of his rank for performing the duties required of him as a Superintendent of Vaccination. The work which he is obliged to perform is many times harder than that required of him while serving in any other position, while the disheartening effect of a never ending dealing with people who throw obstacles in his way, has no equivalent in any other appointment which he could hold.

The self abnegation required of separation from family and friends which is not necessitated to the same degree in the other appointments open to him, and the discomfort of having always to be on the move, must also be met by sufficient remuneration.

Besides all of these, however, there is another element which must always be borne in mind and which also in itself necessitates increased allowances. Duties of whatever nature which call for the exercise of individual energy, individual judgment and individual discretion,

and in the discharge of which much is necessarily left to the trustworthiness of the agents discharging them owing to the limited nature of any controlling power, are those for which special remuneration must be made, with the view of being able to command the services of such persons as those to whom alone such duties can be with safety entrusted.

6. It may be almost predicted beforehand under what circumstances this class of Government servants will fail as Superintendents of Vaccination and when, on the contrary, they will turn out useful agents of the Government.
- Résumé of circumstances under which success or failure will be met with.

Select a Sub-Assistant Surgeon who has been some years in the service when he has become more or less trained to business habits, when his powers of mind have become developed, and when by a separation from home and experience of a world beyond Bengal he has gained a fair share of self-reliance and become somewhat indifferent to the discomforts of leaving his home, and after having thus selected such a person on account of these qualities and in consideration of his being a trustworthy agent and one who has proved that he can work well, avoid the mistake of expecting him to discharge faithfully and zealously the duties of a difficult and distasteful appointment for the same amount of remuneration that he would receive while performing those far more easy and of a more genial kind, and it may be expected that a Sub-Assistant Surgeon so selected and so paid will turn out a good Superintendent of Vaccination.

On the other hand, take a young lad fresh from college, unused to the business of life, untrained in dealing with other men, ignorant of everything save the elements of professional study, his mind fixed constantly on the wrong he has to endure in being forced to leave his home, and ready to brood with melancholy on every little discomfort he is called on to endure, and on each difficulty which it is his duty to overcome—send such an untrained and unproved agent to be a Superintendent of Vaccination with a full knowledge of the drawbacks he has to encounter, and of the much more desirable nature of any other appointment which a member of his service can hold, and the result is all but inevitable that the work he does will be deficient in quantity and imperfect in quality, in short, that he will prove an undesirable servant of the Government in such a capacity. Such a one, according to individual disposition and other adventitious circumstances, will either resign the public service or devote his whole energies in striving to obtain some other appointment.

7. Experience, now extending over many years, has proved that Sub-Assistant Surgeons selected with care and judgment to fill the responsible positions of Superintendents of Vaccination are capable of filling such posts with great credit to themselves and advantage to the Government while working under the Calcutta system, under which a greater amount of European general superintendence is available than under any other system of vaccination.
- Reasons why Sub-Assistant Surgeons should be employed as Superintendents of Vaccination.

Quite independently of the consideration of its being advisable to take advantage of local resources, Sub-Assistant Surgeons stand on a vantage ground in regard to several points, which, other things being nearly equal, gives them great facilities when brought in competition with those not born or brought up in the country. When argument or persuasion are required, having to deal with the people in a language which is their own, places them at once in marked contrast with any European officer, the fact being that the knowledge of Bengallee possessed by Medical Officers is of a very rudimentary nature and but ill suffices for the duties required of a Superintendent of Vaccination.

Points of religion so often come forward, and on such, while the assertions of a christian, however well informed, either pass unheeded or are looked on with suspicion, those of a co-religionist of superior position in the social scale are allowed great weight, his bare dictum often passing unquestioned, and on any discussion arising his view of the case or his explanation of the difficulty being sufficient in many instances to settle the point.

The personal difficulties in the same way to be encountered in the discharge of his duties weigh lightly on the inhabitant of this country when compared to what they prove to a European. In the districts round Calcutta roads between the different villages are so rarely met with that the Superintendent of Vaccination may be said to be forced to move constantly across fields, and over a country in which wheeled conveyances cannot be used. Under similar circumstances in other parts of India camels can be used, but in Bengal they are not

available. A European, unless in exceptional instances, cannot be taken into the houses of the Natives, whereas with a little management an inhabitant of this country can readily obtain food and shelter in, or at least near, any village in which his presence may be necessary.

Considering the fitness that Sub-Assistant Surgeons have shown under the "Calcutta system" to perform the duties of Superintendents of Vaccination, and the disabilities under which European officers have to labor when they have to discharge similar functions, it seems to be a matter of considerable moment that all known facts in connection with the case should be brought clearly forward to enable the Bengal Government to act without hesitation, in spite of the want of success which has been met with under other Governments, in employing this class of agents to perform such duties.

REPORT

ON THE

UNSATISFACTORY STATE OF THE ARRANGEMENTS FOR VACCINATION AS PRACTISED UNDER THE MUNICIPALITIES OTHER THAN THOSE OF THE TOWN AND SUBURBS OF CALCUTTA.

1. Under recent arrangements the various newly formed municipalities have under-

Inefficiency of Municipality Vaccinators.

taken the support of one or more vaccinators. The great difficulty in the way of the successful working of public vaccination through small municipalities, consists in making efficient provision for the professional supervision of the work done by the vaccinators. It is exactly of the same kind as that which has been long felt in the case of the vaccinators who used to be attached to the various Government Dispensaries. The municipality can pay the vaccinators, and they can supply them with lancets, but they cannot insure that protection from small-pox is provided to the people who are operated on. The consequences of any system of vaccination which falls short of fulfilling this requirement are most fatal to the ultimate acceptance of vaccination by the people as a prophylactic against small-pox. They cannot appreciate the difference between a pimple or other form of irritation caused by a vaccinator and the true vaccine vesicle which alone protects from small-pox. Having been operated on by a vaccinator constitutes, in their minds, vaccination, and any person who has been so operated on and subsequently dies of small-pox furnishes to their minds only another instance of the inefficiency of vaccination to protect against small-pox.

2. There are two circumstances which go far to explain how it is that worthless vaccina-

Two causes, leading to this.

tion is so often met with when performed by vaccinators working independently of control. On the one hand, the difficulty of finding men who have been carefully taught to vaccinate, or of teaching them thoroughly, is a great one, and ignorance regarding vaccination is a fruitful source of the failure to protect by such vaccinators. On the other hand, while working away from close supervision, the vaccinators grow careless, and whenever they know that their work will not be subjected to close inspection, they almost invariably become lax and indifferent as to the character of the vaccinations which they practise, and a large amount of unprotective vaccination thus results.

3. The difficulty as regards careful teaching would be in part got over if the

Instruction of Municipal Vaccinators.

various municipalities could be induced to send their vaccinators to Calcutta to be instructed in the work. As this could be done without any additional expense, beyond the cost of travelling, being incurred, the proposal seems to be one which might be carried out without much difficulty.

During the months of June, July, and August the municipal vaccinators remain at present idle, and if they were sent to Calcutta arrangements could be made for their instruction by one of the Superintendents of Vaccination in the town. Their education would not be merely of a theoretical nature, but as vaccination is always being carried on in some of the emigrant depôts, they could have opportunities also of receiving practical instruction.

By being year by year subjected to such a training, it might justly be expected that not only would they become more efficient at the time, but be kept up year by year to an advanced standard.

4. It seems hopeless to attempt for the present to introduce the requisite amount of

Supervision over Municipal Vaccinators.

supervision over this class of municipality vaccinators, as they are so scattered that the greater part of the time of any Superintendent who might be appointed to this duty would so much be occupied in moving from one municipality to another that but a small part of his time could be devoted to the duty of inspection.

It will be impossible for the present staff of Superintendents to undertake the duty of superintending these vaccinators in the sense in which they do when they are held responsible for the work done by the vaccinators on the Government establishment. It is of importance that an effort should be made to meet the difficulty under consideration, and while pointing out the imperfect degree of supervision which can be provided, it is thought right that the following proposal should be brought forward.

Should the Government approve of it, the Superintendent General of Vaccination will communicate with the Chairmen of the various municipalities, and have the vaccinators brought so far under his control that he can direct their work to be supervised in any way that he may be able from time to time to make arrangements for. For the present it is believed that the vaccinators at Ootterparrah, Balli, and Conenugger might be inspected once a month by one of the Superintendents for the town of Calcutta. While in the event of any of the other Superintendents working in the neighbourhood of any of the other municipalities, they would be directed to take any opportunity of seeing the work done by municipality vaccinators. When these vaccinators have been made to keep daily registers of their operations similar to those in use in the department, by verifying these records, a certain amount of wholesome check could be exercised.

The above proposal is made with considerable confidence, as even though it embodies a very defective arrangement, a certain amount of exact information regarding the working of the municipality vaccinators will soon become available which is an important desideratum at present.

5. It does not seem difficult to foresee that ultimately some more permanent arrangement will require to be made with regard to these vaccinators employed by municipalities. While the whole country around them is efficiently protected by a thoroughly organized system of vaccination, the isolated portions possessed of municipal institutions cannot be left in a more than doubtful state as regards safety from small-pox. Two alternatives seem to present themselves as feasible under the circumstances above referred to.

1st.—That the Government should undertake to provide for vaccination within the municipal limits as well as in the districts round them, and that the municipalities be invited to expend the salaries now paid to vaccinators in any other way which may seem most needful for the purpose of securing the public health.

2nd.—That the money now expended in the pay of the vaccinators should still be used for this purpose, but be paid over to the Superintendent General of Vaccination to enable him to take over the municipal vaccinators as part of the vaccine establishment.

It is far from desirable that either of these more permanent arrangements should be carried out at present, though an expression of the wishes of the Government is asked for, so that in whatever is done for the present the ultimate provisions may be kept in view, and that nothing may be said or written which would render it difficult to carry out its intentions when the time comes that the change can easily be effected.

Whichever arrangement is made, a vaccinator cannot be kept constantly within the municipal limits, and as, unless under exceptional circumstances, vaccination would not be practised every year in the surrounding country, the municipalities would also be subjected to this disadvantage. It would doubtless lead to irritation should such an arrangement be made at present. After a very few years most of the difficulties will disappear, when all the country round has been brought under the influence of vaccination, and the Act prohibiting inoculation has been extended to a distance of some miles around each municipality. By pointing to the immunity from small-pox enjoyed by the surrounding population among whom vaccination is not annually practised, any objection which might be urged could be shown to be invalid.

There will doubtless be some who will always feel the deprivation of the power of being vaccinated once a year as a grievance, and to meet their case an arrangement which exists at present will be sufficient. As any one near Calcutta can have a vaccinator sent to him by paying the charges incurred in travelling and a gratuity to the child who supplies the virus.

REPORT

NECESSITY FOR REGULATING THE PRACTICE OF SMALL-POX INOCULATION IN BENGAL, WHERE IT IS NOT PROHIBITED.

CHAPTER I.

General considerations regarding Inoculation and Vaccination.

1. It is shown by various reports and other matters in the possession of Government,

The mortality resulting from small-pox inoculation is of a two-fold nature, direct and indirect.

that the practice of small-pox inoculation in Bengal is accompanied by a considerable mortality. Such mortality may be said to be attributable to a two-fold cause: on the one hand there is always a certain number of deaths amongst those who are the subjects of vaccination; and on the other, natural small-pox is frequently communicated from those who have artificially received the disease to those around them, and thus epidemics of small-pox arise, during which great loss of life sometimes occurs.

2. At present there exists no facility for estimating the percentage of the mortality

The per centage of direct mortality.

which occurs amongst inoculated persons. That it varies however, within very wide limits, is

certain. Instances have been published by Government in which the percentage has reached a very high figure. Dr. Sheridan, Civil Surgeon of Serampore, reported that one inoculator admitted that during the season he had operated on 400 individuals, of whom 200 or 50 per cent. died; in the case reported by Pandit Goury Sunkur Bhuttacharjee of 1000 people who had been inoculated at Hooghly in 1850, the mortality was 30 per cent. In the same year 86 inoculators reported having inoculated 2,586 persons in the suburbs of Calcutta, of whom they said only 19 died, the percentage being 0.73. Some doubt, however, was cast at the time, on the truthfulness of this latter report. One native gentleman alone knew of 14 deaths from inoculation in the suburbs that year, and the probability therefore of more than 14 deaths having occurred was very great. It seems also a fair assumption, that the suburbs of the Metropolis would attract more skilful operators, and if their work was attended with such a mortality, the less favored districts at a distance from Calcutta, must probably have suffered in a much higher ratio. At Sankoberish, in March 1867, out of about 200 persons inoculated, eight died; the rate of mortality being about 4 per cent.

It is also certain, however, that the practice of inoculation, if properly conducted, need not of necessity involve a high rate of mortality. From a recent investigation made by Dr. Wise, late Civil Surgeon of Chinsong, it appeared that in that district the percentage of mortality was 0.60 per cent. In the practice of old and experienced inoculators, even this low figure possibly represents an unusually high death-rate; thus Mr. Bedford, while Civil Surgeon at Rampore Baidyut, saw 95 persons inoculated, amongst whom not a single death occurred from the operation, and I have been assured that this is no unusual occurrence.

3. On inquiry, regarding the mortality which results amongst those who are infected

Danger of indirect inoculation.

with the disease by inoculated persons, or indirectly from others who have received the disease, this

and there appears to be a generally great range in the results. In some cases the most calamitous results are said to follow, whilst in others the evil is apparently reduced to a minimum.

In individual instances I have seen the instances brought forward by Bahadur Issa Chatterjee, Esq., M.B., that in 1848 and 1849 there were several instances of the disease from a case of small-pox inoculation in the district of Hooghly. According to the report regarding the outbreak of small-pox in the district of Hooghly, the disease was spread by inoculation received from those inoculated in 1848. In 1849, the disease was spread by inoculation received from those inoculated in 1848. In 1850, the disease was spread by inoculation received from those inoculated in 1849. In 1851, the disease was spread by inoculation received from those inoculated in 1850. In 1852, the disease was spread by inoculation received from those inoculated in 1851. In 1853, the disease was spread by inoculation received from those inoculated in 1852. In 1854, the disease was spread by inoculation received from those inoculated in 1853. In 1855, the disease was spread by inoculation received from those inoculated in 1854. In 1856, the disease was spread by inoculation received from those inoculated in 1855. In 1857, the disease was spread by inoculation received from those inoculated in 1856. In 1858, the disease was spread by inoculation received from those inoculated in 1857. In 1859, the disease was spread by inoculation received from those inoculated in 1858. In 1860, the disease was spread by inoculation received from those inoculated in 1859. In 1861, the disease was spread by inoculation received from those inoculated in 1860. In 1862, the disease was spread by inoculation received from those inoculated in 1861. In 1863, the disease was spread by inoculation received from those inoculated in 1862. In 1864, the disease was spread by inoculation received from those inoculated in 1863. In 1865, the disease was spread by inoculation received from those inoculated in 1864. In 1866, the disease was spread by inoculation received from those inoculated in 1865. In 1867, the disease was spread by inoculation received from those inoculated in 1866. In 1868, the disease was spread by inoculation received from those inoculated in 1867. In 1869, the disease was spread by inoculation received from those inoculated in 1868. In 1870, the disease was spread by inoculation received from those inoculated in 1869. In 1871, the disease was spread by inoculation received from those inoculated in 1870. In 1872, the disease was spread by inoculation received from those inoculated in 1871. In 1873, the disease was spread by inoculation received from those inoculated in 1872. In 1874, the disease was spread by inoculation received from those inoculated in 1873. In 1875, the disease was spread by inoculation received from those inoculated in 1874. In 1876, the disease was spread by inoculation received from those inoculated in 1875. In 1877, the disease was spread by inoculation received from those inoculated in 1876. In 1878, the disease was spread by inoculation received from those inoculated in 1877. In 1879, the disease was spread by inoculation received from those inoculated in 1878. In 1880, the disease was spread by inoculation received from those inoculated in 1879. In 1881, the disease was spread by inoculation received from those inoculated in 1880. In 1882, the disease was spread by inoculation received from those inoculated in 1881. In 1883, the disease was spread by inoculation received from those inoculated in 1882. In 1884, the disease was spread by inoculation received from those inoculated in 1883. In 1885, the disease was spread by inoculation received from those inoculated in 1884. In 1886, the disease was spread by inoculation received from those inoculated in 1885. In 1887, the disease was spread by inoculation received from those inoculated in 1886. In 1888, the disease was spread by inoculation received from those inoculated in 1887. In 1889, the disease was spread by inoculation received from those inoculated in 1888. In 1890, the disease was spread by inoculation received from those inoculated in 1889. In 1891, the disease was spread by inoculation received from those inoculated in 1890. In 1892, the disease was spread by inoculation received from those inoculated in 1891. In 1893, the disease was spread by inoculation received from those inoculated in 1892. In 1894, the disease was spread by inoculation received from those inoculated in 1893. In 1895, the disease was spread by inoculation received from those inoculated in 1894. In 1896, the disease was spread by inoculation received from those inoculated in 1895. In 1897, the disease was spread by inoculation received from those inoculated in 1896. In 1898, the disease was spread by inoculation received from those inoculated in 1897. In 1899, the disease was spread by inoculation received from those inoculated in 1898. In 1900, the disease was spread by inoculation received from those inoculated in 1899.

the disease in this way. In most of them, however, there is no absolute proof that the disease actually originated from inoculation; and further, exact statistics of the mortality occasioned, have not been systematically collected. For the purposes of this communication this is but a remote drawback, as the evidence of the Medical men who report is full and conclusive. Not only does inoculation, as at present conducted, not unfrequently originate small-pox epidemics, but even when it falls short of such untoward results, it acts injuriously, in a manner apparent to all, by disseminating the disease with rapidity in different directions.

While variolation may, under certain circumstances, thus diffuse small-pox, it must be allowed that the converse is also true, viz., that inoculation may be conducted without small-pox spreading as a necessary consequence. In the report of the Small-pox Commissioners in 1850, numerous individuals bear evidence to the fact, that they have never seen any instance of small-pox communicated by those who had received it by inoculation; all these persons had, from their infancy, been living amongst those who were inoculated yearly, and their negative evidence, though devoid of precision, has, so far as it goes, a distinct and reliable value.

As the result of my own enquiries amongst those who must have had good opportunities of witnessing such results, had they been frequent, I may state that very many not only have never seen small-pox so propagated, but look on such an occurrence as rare. For years I have been on the look out for such results, and though, as already stated, some examples have been reported to me, it so happens, that out of a very considerable number of children whom I have inspected, while undergoing inoculation, or soon afterwards, I have, within my own personal experience, not a single instance to bring forward of small-pox having been so communicated.

4. It will be evident from the perusal of the last two paragraphs, that in the event of any fresh legislation occurring with regard to this matter, two very opposite sets of facts bearing on inoculation must be provided for. We have in evidence that the practice can be conducted with slight risk to the individual, and little danger to the community; while it is proved also that as many as one in two lives may be sacrificed in its performance; and further, that small-pox epidemics carrying death to hundreds may be originated and increased in intensity by this practice.

5. The question here involved is one of great magnitude. Perhaps no single consideration bearing on the decrease of preventable mortality in Bengal, is of greater public importance.

The proportion of inoculated persons to the general population.

The exact extent to which variolation is practised in the Lower Provinces of the Presidency, is for the present unknown. An attempt has been made to estimate this by counting the numbers of inoculated persons in the Jails and among those frequenting public Dispensaries.

It will be seen from the following table that above 80 per cent. of the people examined were protected from small-pox by inoculation. A fractionally small number only, had suffered from natural small-pox:—

Exhibiting the Comparative Proportion of the Population protected by Vaccination and Inoculation in different parts of Bengal, chiefly from Mr. Bedford's Pamphlet.

1	2	3	4	5	6	7	8	9
Year of observation	Name of observer.	Class under observation.	Number under observation.	Number inoculated.	Ratio per cent. of inoculated to population.	Number vaccinated.	Number unprotected.	Number who have had natural small-pox.
1848	Dr. Bedford	1. Prisoners in Chittagong Jail	1,000	871	87.1	2	38	51
1852	Ditto	2. Population of Banipore Baulsah	25,125	22,287	89.5	1,515	3,108	191
1848	Ditto	3. Patients at Chittagong Dispensary	2,500	2,275	91.0	81	185	0
1850	Dr. Wilson	4. Prisoners in Baulsah Jail	730	653	89.5	1	47	60
	Ditto	5. Chowkiedars in Baulsah	67	48	71.6	0	0	4
	Ditto	6. Coolies in ditto	174	148	85.0	8	9	11
	Ditto	7. School boys in ditto	70	59	84.3	2	8	2
	Ditto	8. Coolies in Suburbs of ditto	163	40	25.3	0	3	2
1850	Dr. Wise	9. Prisoners in Dacca Jail	720	720	100.0	0	27	29
	Ditto	10. Patients in Insane Hospital ditto	800	337	42.0	0	45	5
1855-57	Dr. McLeod	11. Prisoners in Jessore Jail	1,518	1,107	73.2	28	163	216
		Total	35,334	28,974	81.74	1,825	3,650	605

Allowing a margin in such an estimate, for the possibility of the reporters having made their enquiries in exceptionally well-protected districts, and to provide for the fact that the adult population only were reported on, it still seems to follow that the great mass of the people do avail themselves of the protection afforded by inoculation. Any interference therefore with the operation must affect very extended interests, and any evil attendant on its practice is of very widely spread significance.

6. On the very threshold of any enquiry relating to legislation in the matter of inoculation, the question of the comparative merits and practicability of vaccination at once presents itself.

There has always been a disbelief in the minds of medical men as to the efficiency of vaccination performed in India. In the native mind a distrust arose so strong as to constitute a formidable difficulty, when attempting to spread vaccination. They had seen persons operated on by a vaccinator who when exposed to the contagion of small-pox, die just as if they had received no protection. They therefore refused to receive the English prophylactic, because a thing which had been palmed off on them as such, through the accredited agents of the Government, had to them proved only a source of bitter disappointment and regret. This spurious vaccination is not confined to the lower orders. The children of European parents have shared in the same delusive protection. Mr. Marson, of the Small-pox Hospital in London, while I was on a visit to that institution some three years ago, remarked to me, "vaccination in India is the most worthless I have seen, most of the children who come home from India are not protected by their vaccination." As Mr. Marson is one of the greatest authorities in Great Britain on all such matters his observation is of importance.

As an example of vaccination in India not protective against small-pox, let me relate what is recorded in the annual report of the Civil Surgeon of Bassein in Burmah, which that officer published in the pages of the *Indian Medical Gazette*. He examined into the results of the vaccination which had been conducted during the previous season, and found that "sixty of these cases suffered from small-pox, and no less than twenty-three of them had died from it within the year."

Such a record may well excite feelings of indignation. It may be presumed that no one would attempt to defend the cruelty of a deception which was followed by the disastrous results above narrated. Any one with an experience such as the above may well justify himself in the belief that vaccination in India is worthless. If the term vaccination is only used as a general one, to include all the operations performed by the ignorant men who draw a monthly salary as vaccinators, I should feel myself compelled to join in the general outcry against the efficacy of Indian vaccination. No terms are sufficiently strong to express the worthlessness of *such* vaccination.

Vaccinia has no relation to the pimples, pustules, ulcers, and other non-specific irritative manifestations by which such operations are characterised. It is only by an abuse of terms that any one who has undergone such an operation can be said to be vaccinated. Though he has been operated on by a vaccinator he is in no way protected. On exposure to small-pox he is as much liable to contract the disease, and to die from it, as any other unprotected person.

To quote only one more such instance; the Superintendent-General of Vaccination in the Central Provinces reports, that "at the village of Kamthee and in its neighbourhood the disease had been spreading for some time, and a Municipal Vaccinator sent by the Civil Surgeon had been working, as he reported, successfully. On my visiting the place, the Kamdar, who was most anxious on the subject, having lost some members of his own family, brought up numbers of children who had been, as it was reported, successfully vaccinated, and yet subsequently contracted small-pox. Several exhibited old cicatrices on the arms, as well as the marks about the face and body of quite recent small-pox; but the larger number had, in the place of the old cicatrices, ulcers in various stages. I examined about 150 persons who had been operated upon by the Municipal Vaccinator, and found that he had been using pusulent matter instead of proper vaccine lymph, and had not produced a single Cow-pox vesicle. The people, uninstructed as to the proper appearance, and probably measuring the success by the sores and inconvenience inflicted, were necessarily disappointed by the apparent failure."

Could any thing be more certain than such an occurrence to make people doubt the efficacy of Indian vaccination? Still, in spite of instance after instance of a similar revelation having come to light, the same "impossible system" is more or less carried on in different parts of India. It is to be observed that these two examples have not been searched out from

among records of old date, but represent occurrences which have taken place, one during the vaccinating season just passed, and the other in the preceding one. They represent not what was in India in times past, but what exists at the present day.

7. We may consider now the question in a narrower form, and enquire whether vaccinia is really protective in India. It is as yet impossible to adduce proof in a statistical form in support of vaccinia being protective. During the small-pox epidemic in Calcutta in 1864 as well as on previous occasions, the fact that numbers who had been vaccinated had been exposed in the most prolonged and careless manner to contagion, without contracting the disease, is however a very striking one.

Under these circumstances, large numbers were found to be exempted from small-pox by previous vaccination, and when they did contract the disease in the great majority of instances they had it in a mild form. Even when the eruption was abundant, the danger to life from post-vaccinal small-pox was found to be very slight indeed. The exact degree in which failure of protection existed may be judged of by the revaccination test to be presently detailed, and is in no way the fault of the vaccinia. During the months in which the epidemic was at its height, thirteen thousand re-vaccinations were practised. Had there been any imperfection in the protective power of the virus, many of these cases would have been found to contract small-pox in spite of the use of the prophylactic. In some the disease was incubating before the vaccination was practised, and these got the disease modified or not by the vaccination, according to the length of time which had elapsed between the reception of the contagion and the vaccination. After the vaccination had run its course, I do not know an instance of one single individual having been attacked by small-pox.

After children had been vaccinated, they have been subjected to the test of inoculation; I do not know of a single case in which it was possible to infect them under these circumstances:

8. It is not sufficient simply to establish the fact that vaccination is protective, but it must be shown to be as efficacious as inoculation against small-pox. The immunity enjoyed by those who have gone through one attack of small-pox from a repetition of the disease is relative and not absolute. In certain races, such as the Goorkhas and other Hill tribes, instances of severe attacks of small-pox for a second or third time are much more common than among European nations. The exact liability of the Bengalee to such subsequent attacks of small-pox is not known, though the fact that they are liable is certain. It is extremely difficult to collect statistical data on this point. A similar difficulty exists when an attempt is made to obtain precise information regarding the liability to small-pox after inoculation and vaccination.

Vaccinia is only a modified small-pox, which results on the use of that cultivated small-pox virus which is called vaccine. By applying the test of vaccination, the exact amount of liability to small-pox can be ascertained. The test is a more searching one than mere exposure to infection, and hence the protection found defective by vaccination might still have served to guard against the lesser degrees of contagion consequent on simple exposure to the influence of a case of small-pox. In 1864 this test was applied to large numbers of persons in Calcutta; persons who had previously suffered from small-pox, those who had been already inoculated, and those who had been vaccinated, were subjected to the test. In each of the three classes the results obtained from the vaccination were surprisingly uniform. The deduction was irresistible, that the protection afforded by the previous attack was the same, whether it had been of spontaneous origin, had followed on inoculation, or had been communicated in the form of vaccinia.

9. When the result has been arrived at, that vaccination is as protective as inoculation, the question of the respective merits of the two is a very simple one indeed. Connected with the practice of small-pox inoculation, there is the direct as well as the indirect mortality already considered, which though it may be small still always exists; when the disease has been produced in a severe form, you have besides this all the suffering connected with a spontaneous attack of small-pox, as well as disfigurement, lameness and blindness, which may also ensue; and besides, those undergoing inoculation have to subject themselves besides to several restrictions. With the practice of vaccination no such drawbacks and disadvantages as those above enumerated are associated.

The immense superiority of vaccination over inoculation, as a means of preserving public health, may be accepted as a dogma at which no one can reasonably cavil. In now having to bring forward the question of the regulation of inoculation, I would carefully guard against being misunderstood on this point. I conceive it to be the duty of the Government to spend every thousand Rupees that can possibly be secured on vaccination, and by every means to encourage the adoption of this method of protection. But when all this has been done there yet remains much undone, and hence further action of some sort is necessary.

10. The Government have already before them a scheme which I proposed, for ultimately furnishing vaccination to the districts surrounding Calcutta. The fixed annual cost of the establishment proposed was Rupees 25,380 per annum. Besides this, other expenses would have to be incurred. The population of these districts may be estimated at five millions. With the establishment asked for, this entire population could never be effectually overtaken.

If the population of Bengal be estimated at 40 millions, eight times such an Establishment would in like manner never be able completely to vaccinate Bengal, and keep it protected and it may be confidently affirmed that an annual expenditure of Rupees 2,03,040 would not suffice to provide vaccination for Bengal. It is open to question whether, with such an expenditure, even a remote approach to the amount of protection from small-pox due to inoculation already existing in Bengal would ever be attained through vaccination.

In the course of time very large tracts of Bengal could not only be vaccinated, but be made to pay for their vaccination, even when conducted by public establishments. Before, however, any population can be made to defray such a charge, it must be taught to become familiar with vaccination; to have confidence in its protection; and to feel that it is worth paying for. Such an education is a work which can only be accomplished by time. The difficulties in the way are real ones, and though by energy and determination they may be overcome, many decades will have passed by before the result is achieved. The real commencement of this work has not been begun, and unless it is quickly undertaken, on a large scale, the first ten years of the next century, will find but little advance made over the corresponding period of this one; a hundred years will not have sufficed to accomplish anything towards making Bengal a vaccinated country.

CHAPTER II.

Arguments for and against Inoculation.

11. A very simple plan of dealing with the question of inoculation has been advocated, and very many well meaning members of the Civil and Medical Services have urged on Government the necessity for abolishing the practice of inoculation altogether. To any one possessed of more than a superficial knowledge of the subject, and especially to those who are personally familiar with instances of the more successfully conducted operations of inoculators, the arguments of such writers must always seem one-sided, and as such open to grave objection. The devastations caused by small-pox amongst large populations are alone before the eyes of the reporters while they make such representations; and conscious of the fact, that in individual cases within their cognizance, inoculators had done much mischief, they write with warmth and energy. To get rid of the evils of the practice, they would prohibit that the good which may be derived from it should continue to be enjoyed by those among whom no evil results have been brought to light.

12. In support of such a prohibition of inoculation, it has been argued that in Great Britain the mortality from small-pox was in no way lessened, but rather increased by the practice of inoculation. So far as I can gather, the direct mortality in Britain among those inoculated, seems to have exceeded a quarter per cent., but to have been much under a half per cent. With proper precautions I believe an equally favorable result may be attained in Bengal. That inoculation did not succeed in diminishing the mortality in England is not to be wondered at, considering the open violation of every element of safety involved in the manner in which it was conducted.

Thus in 1807, in a Parliamentary report, the Royal College of Physicians of London, put it in evidence, that even at that date—"Great numbers of persons" were annually inoculated in London and "required to attend two or three times a week at the places of inoculation through every stage of their illness." Besides this, people recently inoculated were intentionally placed in the public thoroughfares, for the purpose of their being freely exposed to the air, and only in exceptional instances were the most necessary precautions attended to.

Under such circumstances, to say that inoculation only failed to lessen small-pox, and succeeded only in displacing the mortality from the provident to the careless, is to give it very high praise indeed. Even though, as is generally believed, it tended rather to increase than to diminish the general small-pox mortality, it still remains a subject for wonder that its effects were not even more mischievous than history relates.

13. For many years the feelings of the Medical men and of the Members of the Civil Service in India have been more or less strongly opposed to the practice of small-pox inoculation. One reason for this is, that all who appreciate the value of vaccination justly regard its advantages as inestimably superior to inoculation, but ignore the fact that many decades would not suffice to vaccinate forty millions of people in Bengal. Another reason is, that while the one truth, that inoculation may be dangerous both to the individual and to the community, is universally recognised, the larger truth, that it may be conducted extensively with great safety to both, is unknown to many.

14. Such a hostile feeling to inoculation has led to district officers discouraging the practice, and to their intimidating or otherwise punishing inoculators on many occasions. The art of inoculating, which exists in many places in high perfection, can only be handed down from father to son, if such obstacles are not thrown in the way; and if interference is practised to any great extent the country will come to suffer from the want of competent inoculators.

15. In reply to my letter No. 465, dated 10th January 1867, the Government have already expressed their intentions in this matter, and it is now suggested, that independently of further action on this report, the attention of district officers should be directed to the subject, with the view to their being able to make themselves acquainted with some of the reasons on which such a policy of the Government is founded. As it is probable that many may not have leisure to read the whole of this report, an index has been prefixed, so that individual paragraphs may be referred to. Perhaps it may lead to a more favorable reception of the views expressed in favor of a regulated inoculation if it be distinctly stated that the same knowledge of the laws of small-pox, and the same familiarity with the facts which should regulate our action in the matter of vaccination, which led the writer to bring forward as essential, the proposal which was afterwards passed into law, that small-pox inoculation should be prohibited in Calcutta, and which caused him to press on Government the necessity for the extension of vaccination in Bengal, on a scale never previously practised, has also taught him the necessity for the measures now pointed out.

16. It is well known that inoculation confers a very large amount of protection to the community, as well as to the individual, against small-pox. It is also certain that a very large proportion of the population of Bengal is protected by this means, and that an extensive machinery, kept up at the cost of the people themselves, exists for providing the country with this protection. In some parts of the country the safety with which inoculation is practised is very great; the remark being equally true, both as regards the individuals operated on, and as regards those by whom they are surrounded.

Under such circumstances, the abolition of inoculation would constitute a great hardship, and unless an efficient substitute for it were brought to the doors of those affected by the prohibition, the measure would be a dangerous one to public health. On the other hand, it is believed that the dangers consequent on the practice, which have been so often and so vigorously pointed out, might be lessened to a very great extent, by means of a regulation of the practice; measures being taken to provide against both classes of risk connected with inoculation.

17. In February 1852, Mr. Bedford, while Civil Surgeon of Rampore Baulcah, personally

Freedom from danger of inoculation seen by Mr. Bedford.

ally inspected seventy-nine persons who had been inoculated, and placed on record their names, and some particulars with regard to the operation in each case. From these cases we have to exclude three, as from the tabular statement it is evident that in them the inoculation failed to infect the system. Seventy-six remain, in whom small-pox appeared in the very mild form in which it is expected to appear after inoculation. None of these children died. Besides this, no death from small-pox in February or March was to be found in the death Registers of the two Mohullahs in which inoculation was practised, and we are almost justified in concluding that the small-pox did not spread from these centres of contagion, which were by no means small.

18. It is an unquestioned fact, that a case of inoculated small-pox can communicate the disease, as certainly and in as severe a form as one of natural small-pox. But any one who has personal

Explanation of the slight tendency which the disease has to spread, when the inoculation has been of a favorable nature.

knowledge of inoculation as practised in the neighbourhood of Calcutta, cannot fail to be struck with the fact, that contagion from such a source is by no means so common as he would, from mere abstract reasoning, be led to suppose. We have not far to go for the explanation of this fact. The most dangerous period for contagion from small-pox exists during the process of shedding the crusts; and in many cases of inoculated small-pox this stage is either wholly or in great part absent.

The whole eruption, consisting of half a dozen of papules, without going to form vesicles and pustules, may simply fade and die away. In such a case, the contagious properties of the disease are reduced to a minimum. Even when advance is made to the formation of pustules and crusts, the infecting properties of such cases compared with that of an ordinary case of unmodified small-pox, are still so infinitely small as to merit marked attention.

Out of the seventy-six cases recorded by Mr. Bedford, in more than one-half, the elements of the eruption were limited in number to five or less. In seventeen cases the eruption reached to one dozen, and in only seven of these did it amount to two dozen. The maximum number reached in any case was 125 in one instance, and in only two other cases 100 pustules are recorded as having been present.

With such a sparse modified eruption, the danger of spreading is robbed of much of its terrors, while we have another element operating still further to limit the danger, in the fact that the inoculations are conducted among a protected circle of friends and attendants, and that thus, from want of pabulum to infect, the disease is confined to the individuals who have been inoculated, and does not spread to the protected community.

19. Besides the truth, that among a protected population, the majority of cases of inoculated small-pox, have, in ordinary seasons,

The strict sanitary code of the Hindoos lessens the danger of contagion

little tendency to spread from the individuals inoculated, (everywhere in the neighbourhood of Calcutta at least) ancient custom and religious prejudice unite in making the people conform to rules, which, if carried out with moderate strictness, afford most material safeguards against the spread of small-pox. Thus, no inoculation is allowed in a village unless the majority of the unprotected persons can be inoculated; and the influential majority generally succeed in coercing the minority to compliance, so that practically almost all come to subject themselves to inoculation. Not only so, but it is the custom for all the unprotected in the village to be operated on, on the same day; while unprotected pregnant women, or others who cannot, from one cause or another, submit to the ordeal on the day fixed, in many instances seek safety from contagion, by isolating themselves in the houses of relations in other villages, until the danger has gone by. Clothes are usually not sent to the washerman till the inoculation is completed. The accumulation of twenty-one days is in most instances twice subjected to the influence of boiling water, and as it is sufficient to require a special washing day for itself, the result is, that such clothes are seldom washed at the same time as the clothes from uninfected houses. Again, Hindoos are prohibited by their religion from giving alms or food to the poor, while inoculation is going on. They are not allowed to eat fish, and are interdicted from shaving. A menel may not enter the house with his ordinary clothes, but is specially required to have a clean suit on; while any member of an inoculated household, who has intercourse with the outside world, is thereby rendered unclean, and has to change his clothes and bathe, before he can again enter the sick chamber.

To the guardian of public health, such restrictions imply household quarantine of a very strict character, a quarantine rendered imperative by the sanctity of religious observance.

The original framers of this Hindoo ceremonial code had evidently the danger of contagion prominently before their eyes, and fenced the affairs of every-day life in such a way as to attain their end most effectually.

With a rare perception of the philosophy of human action, they put their restrictions on the ground of self-interest, and not on that of public safety. It was provided that beggars should be prevented from coming to the house, not because they might receive and communicate contagion to other benevolent persons, but in case they might injure those inoculated. The barber might not pursue his calling in such a house, not lest he should endanger his next customer, but in case the inoculation should be harmed. Fish being the only important article of diet requiring to be procured daily, was interdicted, not lest those going to market for it should endanger public health, but because its presence in the house was prejudicial to those concerned. A person in an infected household was prevented from associating with unprotected persons, not to save such from danger, but in case their uncleanness might prove dangerous to the inoculated; the restriction imposed being of such a harassing nature as to lead those whose avocations might tend to a frequent breaking of the rule to renounce for the time any such business, it being shrewdly surmised, that without very cogent reasons no person would subject himself to an unusual succession of baths and changes of raiment. The casual acquaintance from another village must not enter such a sick room, not to save himself from carrying the disease to his own house, but lest he should anger *Sittolah*, and bring down her wrath on the infected person: a special clean suit of clothes was not at his disposal, and without it, his merely passing the threshold of the sick room was declared profanation.

20. There are two alternatives which must present themselves, should variolation be prohibited; either the Government must come forward and by means of large and perfectly organized establishments provide vaccination, and supply it to every district; or the country must be left unprotected and liable to be continually devastated by small-pox: either alternative is, in the present day, impossible.

21. The latter cannot be thought of in the face of the facts which have occurred even during the present century; with the details before them, of events leading to whole communities being all but swept off the face of the earth, by the ravages of unrestricted small-pox, no Government could maturely arrive at the decision, that the people should be forced to subject themselves to the not remote danger of becoming annihilated by this disease. Besides this, although, in the most turbulent times, a Brigade of English troops could march through the length and breadth of Bengal, it is open to question whether the whole of the troops in the pay of Great Britain would be numerous enough to suppress the practice of inoculation in Bengal. The people know too well the great advantage which, as individuals, they can derive from inoculation, and however stringent may be the measures intended for its prevention they will clandestinely protect themselves from small-pox, in spite of every prohibition.

22. The only other alternative is, that the Government should accept the obligation of providing vaccination to every one deprived of the power of protecting himself by inoculation. Vaccination in India differs from vaccination in Europe in two very important respects; in the first place, the population is quite unprovided with Medical men who can vaccinate, and again, the climate for half the year is so inimical to the success of vaccination that private enterprise can never be expected to be able to keep up a continuation of effective virus, during the hot and rainy months. Even if in succeeding centuries, medical aid such as is to be found in Europe, should be provided for the people, while the temperature in the unfavorable months remains the same, the practice of vaccination will always continue to be practically impossible through private agency. Vaccination in this country is essentially an exotic. In a Hill climate or during the cold months in the plains it flourishes with a vigour and facility of propagation seldom equalled, and nowhere surpassed. When the weather becomes warmer a change ensues. Superinduced inflammatory results, from trivial causes, interfere with success. The virus degenerates, an inflammatory sore and not

a protective vaccination is liable to follow the operation, and in this way the supply of virus is apt suddenly to be brought to an end. In temperate countries such a result matters little, because the virus, if not procurable in the neighbourhood, can be easily obtained at once from a central source. It is true that during any day of the year, virus in an active state can be despatched from Calcutta, but a memorandum accompanies each despatch, pointing out the possibility of the virus losing its virtue before arrival at the destination, on that a great practical difficulty exists during the hot season in India, which has no existence in Europe, at any time of the year. Theoretically it would no doubt be possible in a long course of years to make Bengal a vaccinated country, but in reality the expense entailed on the Government would be so enormous as practically to negative any such proposition.

CHAPTER III.

Regulation of Inoculation.

23. Such sanitary regulations as those detailed in paragraph 19 have taken firm root in the minds of the Hindoos. They are arbitrary

Additional restrictive measures falling on individuals and not on communities.

and vexatious to such an extent that a temporal power could hardly expect to be able to ensure compliance

with them, though superstition has succeeded in having them carried out among large communities, with surprising strictness. In the course of a careful supervision of the practical working of inoculation, it may be found necessary to add to such rules, or even in certain districts to enforce compliance with measures having a similar tendency, but falling less lightly on those who are to observe them. Any such further restrictions, however, that may be found necessary, will probably be required to coerce certain *dangerous individuals*, and will not fall at all heavily on the community.

Special information regarding the Mahomedan population will require to be collected. It is believed that in most places they conform closely to the Hindoo customs, and as they comply with the sanitary restrictions of the ceremonial code already in existence, it seems probable that they will not form an exception to the above observations. They are operated on by Hindoo Inoculators, who guide them in all matters connected with the practice. I have not heard of any occasions of the Mahomedans worshipping *Sittolah*, but I believe that they go so far as sometimes to procure Ganges water; it is usual for them to place votive offerings on the "Ghatt" in an orthodox manner, so that prayers may be offered up to *Sittolah* by the Hindoo operators.

24. There is not, for the present,

Advantage of making known certain precautions proper to observe.

evidence to shew that any compulsory measure is needed. It might be well, however, to make known extensively, the great advantage to be derived from certain precautions. The sense of self-preservation

alone, would lead to their adoption in most cases, and accomplish a certain amount of good, without proving irksome, or causing any possible hardship. As instances of what has now been alluded to, the following may be enumerated. The head of the village should be directed to use his influence to reconcile contending parties, and secure the whole village being inoculated at once. He should advise those who would not or could not join thus, to leave the village for a short time, or to seclude themselves as much as possible, from mingling with those from infected houses. He should encourage all the villagers, before the inoculation, to lay in any necessary articles they were likely to require during such period, as well as to dispose of any of their possessions, which it might be necessary to sell at that particular time, before the inoculation was commenced. In general terms he should point out to the villagers the propriety of their confining themselves to their own village, and not frequenting places of public resort, as hâts, &c., till the danger of their spreading small-pox is at an end.

Following out the same principle, he might be asked to give the heads of the neighbouring villages notice, that inoculation was going to take place, so that they may give warning in their own villages that the infected locality should be avoided. Any such notification should embrace the fewer possible points, and be embodied in a few familiar words, to prevent all possibility of misapprehension.

25. The first step in the regulation of inoculation consists in having every inoculator's

Registration of Inoculators. Returns to be required of them.

name registered, and obliging each man to report his operations. In this way the executive would be in a

position to know of the exact amount of safety with which each inoculator could operate, and be in a position to suspend him or otherwise punish

him, should the loss of life resulting from his practising as an inoculator, render such a measure necessary. For the purpose of being registered, he might be required to appear annually at the Police Station nearest to the village in which he proposes to work, and have his name enrolled on a Register kept for this purpose, making known his habitual place of residence to the Police; his personal description and recognizable marks being noted at the same time, so that he might less readily escape pursuit, if he did not comply with the law.

This registration would involve little else than the necessity for supplying Returns of his operations with their results. Probably in some cases the mere statement that he had inoculated so many people, of whom so many had died, would suffice; but for the present it seems in the highest degree desirable that he should be made to provide a nominal return of all cases, so that such might be checked, in every instance in which the necessity arose, and such deception as unreported deaths be rendered more difficult. Many of the inoculators cannot write, but this objection loses much of its weight, when we consider that most of them being Brahmins or Acharjies, have only to ask any Sadak in the village, to do them such a service as filling in a return, to have it performed at once, while Mallahs and Coopers are also very favorably circumstanced in this respect.

26. The head man of each village, the Mundalla, Datwarra, or similar persons where such can be found, and the Zemindar's Agents might be held responsible for this return being correct. To insist on their being personally responsible for every name and figure would prove a burden to them, but in the matter of an unreported death, they might be held liable to a heavy fine, as in these small village communities they are always personally cognisant of such occurrences, and nothing but deliberate intention to deceive could lead to such false reports on their part.

In rural districts the same agency should be held responsible that every case of small-pox as well as of deaths resulting therefrom, occurring in the village within two months of the inoculation being practised, should be reported to the Police through the village Chowkedars; and in Towns, the Municipality or Panchayat might be held responsible for this duty. In this way the danger of contagion may soon be correctly estimated, and data will be available for preparing any further rules that may be required.

27. The nominal returns collected at the Police Stations might be forwarded in abstract, to the District Officers, who might be requested to forward them all when collected to the Commissioner of the Division, together with a general summary of the results reported in the whole District. The Commissioner might deal in the same way with the general summaries collected from the several Districts; and when the reports from each Division had been received, they might be compiled in the Bengal Office. When so prepared, if submitted to the Head of the Medical Department, to the Sanitary Commissioner for Bengal, to the Superintendent-General of Vaccination, or any other Officer, on whose judgment, and personal familiarity with detail, the Government are prepared to place confidence, a mass of material, more or less fitted to guide to a more perfect appreciation of the exact advantages and drawbacks connected with the practice of small-pox inoculation in Bengal, would be available for analysis and criticism.

28. It is not pretended that such a document would be reliable in the sense of very strict scientific accuracy. Negligence, fraud, and other causes, might very possibly combine to prevent it from being a trustworthy record, in this respect.

With the aid, however, of an intelligent criticism, much error would be excluded; and subsequent enquiries on any reports, which seemed suspicious, would assist in still further narrowing the risks of mistake. A record would thus be provided on a basis of a sufficiently trustworthy nature, to guide to further action in a matter so important and at the same time so difficult.

29. It will thus be seen that the proposed amount of regulation of the inoculation taking place in Bengal, will serve on the one hand to ensure caution on the part of the operators, while it will also serve to collect statistical information bearing on the general subject. While it is not pretended that either indication will be fulfilled in a very perfect or absolute manner, yet it may confidently be affirmed that very satisfactory results will be obtained, which will well repay the trouble involved in the measure.

80. It will be seen that the subject of inoculation with the procedure of inoculation is not advisable for the present situation with the procedure of the inoculation. It is possible that in some parts of the country it may be found advisable to furnish the inoculators with short rules, which they should be invited to follow, with instructions which they should keep in mind, as well as with hints as to the general mode of conducting their work. For the present, any such measure would be hazardous, and would be much more efficiently not to attempt to, as the inoculators are acquainted with special faults or shortcomings, which it would be hazardous to guard them against. The question has been carefully considered of requiring the inoculators to make a return of persons, the names from which their virus has been derived, whether taken by themselves or brought from a vendor of it, with the view of punishing them for all consequences. In the event of their being proved to have taken it from a case of small-pox known to have been an unsuitable one for the purpose. It seems, however, for the present, better not to take action in this way, but to wait to see whether the mere knowledge that their operations are watched by the Government, will not ensure all the necessary care on their part.

It may be right while on this subject, to point out to Government, that a careful selection of the small-pox cases from which to inoculate, may influence the result to the extent of a few individual deaths per cent.; but when the mortality reaches to the heavy ratio of 30 or 50 per cent., as in the cases cited in paragraph 79, the result in the present state of our knowledge seems quite insignificant.

The mortality from small-pox among large numbers of persons who have been vaccinated, is very much the same every where; in the same way, small-pox, among unprotected persons, has a death-rate, which though influenced by climate and race is surprisingly regular; inoculated small-pox also obeys the rule of its death-rate being a fractionally small one. That only a certain small number of persons out of every thousand should die after being inoculated with the virus chosen from a slight case of small-pox, is as much a law of nature, as any of which we have cognisance within the limits of Medical experience. Allowing this to be the case, it is a matter for very great regret, that at the time when such extravagant and incredible assertions were made, as that a third or half of those operated on died in any given instances, a searching enquiry should not have been at once instituted, to verify or disprove alleged facts, which it is difficult to believe, seeing they are so much at variance with the well ascertained and carefully matured knowledge on the subject.

81. It is of importance that the results collected, should contain as much information as possible extending over the whole of the next inoculating season. In the neighbourhood of Calcutta, this would be attained, and abundance of time for preparation would be allowed, if the regulation were to come into operation on the 1st of January 1869.

CHAPTER IV.

Further investigation concerning Inoculation necessary.

82. When the scantiness of the available data on which to estimate the degree of protection which exists in the country against small-pox is considered, the conviction will doubtless be felt, that though it is conclusive so far as it goes, it is of too meagre a description to found very active or sweeping measures on. To remedy the restricted nature of such data is a desideratum of the first importance.

With exact information regarding the percentage of protection against small-pox which exists in each particular district, the question of preventing the ravages of small-pox in it will be much simplified. The enquiry ought to embrace all the three sources of protection, and include, under distinct headings, the number protected by previous attacks of small-pox, by inoculation and by vaccination, as well as the numbers devoid of all protection.

83. For the purpose of ascertaining the amount of protection against small-pox, any general census must be excluded from the means at our command, as independently of the magnitude of the task any agency available for such a purpose would be quite untrustworthy.

Prisoners, Police and Dispensary patients, furnish three sources however, which would provide reliable data, and with obvious restrictions would serve to supply the want. If, therefore, every person coming for advice to any Government Dispensary were examined and reported on, as regards this particular, on a given day, and the state of the Police down to the village Chowkeedars was also so reported on, much valuable information on important points could be gained. As regards prisoners, if a similar examination were required, it might be instituted. It is believed that a record has for some time been kept in every Jail in Bengal which will serve to furnish most valuable evidence on the point. It is most desirable that, from this record, a statement should be furnished, prepared in a tabular form, and including the results available for each year, up to the end of 1868. In the case of prisoners and Dispensary patients, Medical agency could be secured for this investigation, and the data collected would be of a reliable nature.

34. The information we possess regarding the practice of small-pox inoculation in Bengal is not only very scanty, but it is at the same time very defective in several important particulars :

Exact information regarding both the direct and indirect mortality from inoculation, and more precise particulars regarding the practice is desirable.

exact statistical information is much wanted. Without such guidance, very much uncertainty regarding its fitness, must be inseparably connected with every measure which may be proposed, to place the population on a better footing as regards small-pox.

Reliable information regarding the percentage of direct mortality among inoculated persons, in different parts of the country, should be at once collected.

The investigation should also embrace an enquiry into various other particulars, regarding the practice of inoculation ; as for instance into the subject of the usual characters which the secondary eruption presents, and the course that it most commonly runs. An attempt should also be made, with care, to discover the frequency or otherwise with which small-pox spreads from inoculated persons in the different districts.

35. As the data collected about the practice of inoculating, with regard to occurrences

Proposal for a Medical Commission to collect precise information regarding inoculation.

taking place during the course of its performance, would be confessedly defective as regards trustworthiness, when culled from the reports of the inoculators, it would be highly advantageous to supplement such information on a small scale, by evidence collected in an irreproachable manner. A special Commission of Medical men appointed to collect the information required seems to be the simplest as well as the most reliable method of securing such evidence. Any such Commission acting as a body in one part of the country would prove to be expensive and cumbersome.

It is proposed, therefore, that half a dozen districts should be chosen, and the Civil Surgeons be invited to become Members of such a Commission, to watch the inoculation which takes place nearest to them. The selected stations should be at considerable distances one from the other ; so that the results arrived at may be taken to represent fairly the general average throughout Bengal. That such Commissioners could watch the whole of the inoculations in the neighbourhood of their stations for the whole season is not to be expected. A few hundreds, carefully tabulated, would suffice, and the general aggregate would be large enough to serve as a trustworthy guide. If each Civil Surgeon who was chosen were to devote a week to the enquiry, the days in which he was thus employed being scattered over a longer period, the information required could be obtained.

36. The general mode in which such a commission might work would be as follows :

General mode of working which such a Commission should pursue.

two or three inoculators who were about to conduct their operations within a few miles of the Civil Surgeon's residence, would require to be gained over, and their assistance secured for the purposes of the enquiry. A Native Doctor, or other subordinate, who could write the Vernacular, would be sent with the inoculator to fill in the names and other particulars, into a form provided for the purpose. When the inoculation was at its height, the Civil Surgeon might compare the names and results tabulated for him, with such inoculated persons, and thus satisfy himself of its correctness. After some days he might again inspect each individual, to satisfy himself of the general condition of the survivors, and to make sure that no deaths in excess of those reported by the Native Doctor had taken place. Besides this, he would have to take measures, to keep himself informed regarding any cases of spontaneous small-pox which might occur afterwards. With such data each Member of the Commission could furnish a report on the inoculation he had witnessed, and the President might furnish a general summary of the whole, with a report, embracing the various points brought out by such enquiry, for the Government.

37. Were it determined to organize such a Commission as that now recommended a suitable time for the necessary observations would be in the month of February 1870. Since before the investigation could be commenced, several preliminary arrangements requiring correspondence, and involving some time for their completion, would have to be made, an early expression of the wishes of the Government on the subject is desirable.

(RESOLUTION.)

JUDICIAL DEPARTMENT

Medical. ,

Fort William, the 7th January 1870.

THIS report was originally forwarded to Government on the 20th of September, and was even then long after date. The tabular statements proved, however, on examination to be both inaccurate and incomplete, and it was not till the 30th of November that correct copies of the report were submitted for orders. The Lieutenant-Governor hopes that this may not occur again, and that the form which has been adopted in Table A. *seq.* may be carefully followed in future; but with separate sub-totals for the operations in Calcutta with its Suburbs and in the Metropolitan Circles.

2. The following table exhibits the result of vaccine operations throughout Bengal during the year 1868-69 :—

PLACE.	Total number vaccinated.	Successful cases.	Unsuccessful cases.	Ratio per cent. of successful cases.
Calcutta and Suburbs ..	35,435	25,267	10,168	71·02
Metropolitan circles ...	1,22,493	1,21,335	1,158	99·05
Darjeeling circle ...	41,533	39,363	5,170	88·38
Ranchee circle ...	7,904	4,618	3,286	58·42
Sonthal Pergunnahs ...	3,931	3,521	410	89·55
Dispensary Vaccination ...	48,245	40,724	7,521	84·41
Total ...	2,62,541	2,34,828	27,713	89·1

3. The Lieutenant-Governor agrees with the Inspector-General that the exceptionally favorable returns shown in the Metropolitan Circles cannot be accepted without some hesitation. Some explanation of the low ratio of success obtained at the Medical College Dispensary (51·4 per cent.) where it may be presumed that the results are carefully watched should have been given. If correct, this makes the high averages elsewhere still more doubtful. It is by no means certain that the returns of dispensary vaccination are complete. At Buxar, for instance, where a vaccinator has been entertained since 1866, no operations are shown for 1868-69.

4. *Presidency Circles.*—(Pages XI. to XXV. of Report.)

Calcutta and Suburbs.—Dr. Charles reports that 3,914 residents of Calcutta were vaccinated during the year from May to April; the percentage of success being 98·040 : while in the suburbs 5,927 were vaccinated during the same period, with a percentage of successful cases of 98·05. These figures do not agree with those given in the table, apparently because for some unexplained reason the operations for April 1868 are here excluded.

5. The proposals made by Dr. Charles for compulsory isolation of persons affected with small-pox. in his special report on the subject, were, as the Inspector-General was informed by Government Order No. 1411, dated 30th March last, deemed impracticable. Dr. Charles again raises the question in paragraphs 5 to 9 of his present report. The main objection to a legislative enactment of the kind advocated by Dr. Charles is that properly to enforce it would require such large establishments and lead to so much interference with the domestic privacy of families, if not to actual oppression and extortion, that Government would be scarcely warranted in taking such a step. The plan hitherto adopted of vaccinating all around any centre of infection which may

be discovered is open to no suspicion and proves on the whole effectual. The Lieutenant-Governor sees no objection to the issue of stringent orders to the police to report at once to the Vaccine Superintendent the occurrence of any case of small-pox within the city or suburbs. This will enable the vaccinators to direct their operations to infected localities. It would also perhaps, in the event of a threatening of epidemic, be advisable to direct the Superintendent of vaccination to prosecute, under Section 269 of the Indian Penal Code, any person who might be discovered unlawfully or negligently spreading infection. The following note upon the section by Messrs. Morgan and Macpherson will show how far it is applicable :—

“ If a man is attacked by a contagious and deadly disease, and needlessly goes abroad with it in the public way, or if a person carries out a child so infected, he does what he may be supposed to know to be likely to spread the infection. And unless some lawful occasion or reason for this conduct can be shown, as that the sick person had been directed to be removed to a hospital, and that the removal was performed with due caution, the act will be an offence punishable under this Section.”

If one or two convictions were obtained by a judicious prosecution under Dr. Charles's own eye, the due promulgation of this result, and the calling of attention to the operation of the existing law, would materially aid the Superintendents in giving advice to those affected to keep themselves apart from the general crowd.

6. *Metropolitan Circles.*—The total number of vaccinations under the three Superintendents is given in paragraph 29 of the Superintendent-General's Report at 1,28,076 of which 99·42 per cent. succeeded.

7. Since the date of Dr. Charles's Report a medical officer (Surgeon Powell) has been appointed to the charge of the metropolitan circle of superintendence.

8. Dr. Charles is of opinion that a Surgeon on Rupees 1,050 per mensem should be appointed to be Superintendent-General for Bengal with special charge of the Presidency Circles. The Lieutenant-Governor is unable at present to recommend increased expenditure upon a central office, while so much has to be done to develop the system in the interior. Whether it may be possible hereafter to appoint native Superintendents to all Mofussil charges, placing the whole under one European Superintendent-General, is a subject which may deserve the consideration of the Inspector-General of Hospitals, and is further alluded to below.

9. The general character of the superintendence in the Metropolitan Circles appears to have been satisfactory, and the operations of the department have no doubt done much substantial good. Any proposal for the entertainment of extra vaccinators should be separately submitted for orders. An annual report of past administration is not the appropriate place for such applications. The Lieutenant-Governor can, however, hold out no hope at present that extra expenditure of any kind will be sanctioned.

10. With reference to paragraph 31 of the Superintendent-General's report, a communication will be addressed to the Governor of Chandernagore, showing what has been done in the neighbouring British districts to introduce vaccination, and inviting attention to the subject.

11. The success which has attended vaccine operations in the neighbourhood of the capital, renders it worthy of consideration whether steps might not now be taken to render the system in these circles to some extent self-supporting. This has been already suggested by Dr. Charles in the report submitted with the letter No. 146, dated 8th November 1867, from the Inspector-General of Hospitals. The Lieutenant-Governor will be glad if the present Inspector-General will consider the point in communication with Dr. Charles, and report on the best means of effecting this end, consistently with the avowed object of Government which is to extend vaccination as far as the means at its disposal will allow.

12. The Lieutenant-Governor remarks upon the special report submitted by Dr. Charles in regard to the qualifications of Sub-Assistant Surgeons to be Superintendents of vaccination, that if any considerable extension of the system is to be made it must be by means of an agency considerably less expensive than European superintendence. The Inspector-General of Hospitals should take this matter into consideration, in connection with the remarks

already made in regard to the appointment of a separate Superintendent-General on an enhanced salary.

13. The suggestion made by Dr. Charles in his second report, that municipal vaccinators should be sent down to Calcutta in the recess, for training, appears to the Lieutenant-Governor worthy of adoption. Dr. Charles is at liberty to communicate on this matter with the Chairmen of those municipalities which entertain vaccinators, all expense being of course borne by the municipalities. The question of the ultimate disposal of municipal vaccinators does not at present arise. •

14. The third of the special reports submitted, deals with the question of regulating inoculation where it cannot be entirely suppressed. Briefly stated Dr. Charles's argument is this. It is impossible for Government, save at a cost which cannot now be contemplated, to provide vaccination for the whole of the people of Bengal. Properly effected vaccination, even in India, is a protection against small-pox, while it is not attended with those dangers to the individual and the community which accompany inoculation. On the other hand, inoculation, when practised under proper conditions, is not so destructive to life, as it is usually supposed to be by English practitioners, while its prophylactic effects are recognised popularly throughout India by natives of all classes. In default of a complete vaccine system it is suggested that it would be wise not to prohibit, but to regulate inoculation. To this end it is proposed that heads of villages should use their influence to secure the inoculation of all the unprotected inhabitants at one and the same time; and to prevent the association of the inoculated with the unprotected during the period of affection. Inoculators should, it is further suggested, be registered and compelled to report their cases and results; Zemindars and such like being responsible for this being done. For the purpose of ascertaining what amount of protection from small-pox is afforded by inoculation, and what its effects are, it is then proposed that statistics from Jails, the Police, and Dispensaries should be obtained; and that Civil Surgeons of several selected districts be directed to enquire systematically into, and to observe the results of inoculation in their immediate neighbourhood.

15. The general remark made upon Dr. Charles's propositions by the Inspector-General of Hospitals, in paragraph 28 of his covering report, does not lead the Lieutenant-Governor to the conclusion that the Inspector-General has given as much consideration to these suggestions as they seem to deserve. It is desirable that no doubt should exist on a point of such vital importance to the country as that raised by Dr. Charles. It is questionable indeed, if his conclusions be correct, whether the tendency of Government legislation and of the executive action taken upon that legislation has been altogether correct. Commissioners will now be requested to report on the subject after consulting Magistrates and Civil Surgeons, and, on receipt of their replies, the Inspector-General of Hospitals will be requested to reconsider the matter and submit, for the information of Government, the views which he may form in the light of the opinions so collated.

16. *Darjeeling Circle.*—In the Darjeeling Hills the total number of vaccinations up to the end of October was 3,372, of which 2,806 or 83 per cent. were successful. The season for vaccination in the hills should be fixed by the Superintendent with reference to his experience of the exigencies of the climate. From the end of October to the close of the year operations extended over the districts of Rangpore, the Western Dooars, Dinagopore, Bogra, and Rajshahye, the total of cases being 44,533, of which 88 per cent. succeeded. The Lieutenant-Governor approves of Dr. Mathews' proposal that on an outbreak of small-pox taking place, Civil Surgeons should inform the Superintendent at Darjeeling direct, as well as the Deputy Inspector-General of Hospitals of their circle. The plan of giving gratuities to subordinates of the Vaccine Establishments for energetic work does not commend itself to the Lieutenant-Governor. It has been found to fail as pointed out by Dr. Charles in paragraph 15 of his report. A system of graduated salaries and proper supervision ought to secure the results desired. The Inspector-General should call attention to this, and, if necessary, submit a complete scheme.

17. *Ranchee Circle*.—In this circle 7,904 persons were vaccinated with successful results in 58·42 per cent. of cases only. The account given by Dr. Hoskins of his operations, and of the opposition shown to him by both landholders and ryots, leads the Lieutenant-Governor to doubt whether the conduct of affairs was judiciously managed. If so much suspicion was raised by Dr. Hoskins' efforts to extend his work, it would have been wise had he confined himself entirely to the duty of superintending results, and left the Native Superintendents to conciliate the people in the first instance. The conduct of some of those officers and their parties appears to have been anything but satisfactory. The Commissioner will be requested to exercise a close supervision over the vaccine operations in future, and to issue instructions to District Officers to assist and instruct the working parties as much as possible.

18. *Sonthal Pergunnahs*.—If the return can be trusted, Baboo Gopal Chunder Dey's operations were very successful. 3,931 operations having been performed in a few days with five vaccinators, and success obtained in 89·57 per cent. of cases. This seems to indicate the value of native superintendence as contended for by Dr. Charles.

19. *Paragraphs 17 to 26 of Inspector-General of Hospitals' Report*.—Proposals for the re-constitution of vaccine circles must be separately submitted for orders, with a definite statement of the establishment required.

20. The Inspector-General should draw the attention of the officers concerned, to the extreme and unnecessary diffuseness of all the vaccination reports submitted this year to Government; especially those of the Presidency and Metropolitan Circles. A clear concise narrative of the year's administration might have been given in at most one-fourth of the space. The importance of economising the time of Government, as well as of diminishing the cost of printing, should be kept before the mind of every officer who is called upon to submit annual reports.

Ordered, that a copy of the Resolution be forwarded to the Inspector-General of Hospitals, Indian Medical Department, for information and guidance.

Also that an extract (paragraph 5) be forwarded to the Commissioner of Police, for information and guidance.

Further, that copies be forwarded to all Commissioners, (except Chota Nagpore,) with special reference to paragraph 15, and to the Commissioner of Chota Nagpore with reference to paragraphs 15 and 17.

By Order of the Lieutenant-Governor of Bengal,

A. EDEN,

Secretary to the Govt. of Bengal.

No. 76.

COPY forwarded to the Inspector-General of Hospitals, Indian Medical Department.

—————
No. 77.

EXTRACT, paragraph 5, forwarded to the Commissioner of Police, Calcutta.

—————
No. 78.

COPY forwarded to all Commissioners, (except Chota Nagpore,) with special reference to paragraph 15.

—————
No. 79.

COPY forwarded to the Commissioner of Chota Nagpore, with reference to paragraphs 15 and 17.

By Order of the Lieutenant-Governor of Bengal,

FORT WILLIAM,

A. MACKENZIE,

The 7th January 1870. }

Offg. Junior Secy. to the Govt. of Bengal.

REPORT



ON

VACCINATION

IN THE

PROVINCE OF BENGAL

FOR THE YEAR ENDING 31st MARCH

1876.

BY

J. FULLARTON BEATSON, Esq., M.D.,

Surgeon-General, Indian Medical Department.

Calcutta

PRINTED AT THE BENGAL SECRETARIAT PRESS.

1876.

FROM THE SURGEON-GENERAL, INDIAN MEDICAL DEPARTMENT,

TO THE SECRETARY TO THE GOVERNMENT OF BENGAL,
JUDICIAL DEPARTMENT.

Fort William, the 21st October 1876

SIR,

I HAVE the honor to submit the report and returns of vaccination in the province of Bengal for the year ending the 31st of March last. This report has been prepared on the same plan as was adopted in that of last year, viz. there are embodied in it the reports and returns submitted by the Superintendents of the various vaccine circles; and besides, an extract of the reports rendered by Civil Surgeons has been given in a separate appendix

Abbreviation of report

2 Agency.—The comparative statement (No I) given in the margin shows that the

Agency

STATEMENT No. I.

CIRCLES	1875-76						1874-75					
	Superintendent General	Superintendents	Deputy Superintendents	Native Superintendents	Head vaccinators	Vaccinators.	Superintendent General	Superintendents	Deputy Superintendents	Native Superintendents	Head vaccinators	Vaccinators
Calcutta and suburbs	1	2	3	6	245		1	2	3	6	245	
Metropolitan Circles	1	3	7	12	78	24	1	3	7	12	78	24
Darjeeling Circle	1	1	7	23	45	30	1	1	7	23	45	30
Ranchee do	1	1	3	20	18		1	1	3	20	18	
Sonthal Pergunnahs Circle	1	1	1	18			1	1	1	18		
Eastern Bengal Circle	1			6	56	24	1			6	56	24
Orissa Circle	1			1	10	9						
Behar do	1			55	550							
Dispensary vaccination					166	561					166	573
Total	1	6	7	11	33	443	1	4	7	4	31	419

a 21 employed
b 3 dittoc 16 employed
d 10 inspect licensed vaccinators

superintending agency was increased last year by the addition of two Superintendents, and of seven native superintendents: while the executive body was also augmented by two head vaccinators, twenty-four vaccinators, and thirty apprentices, but with a diminution in the number of ex-inoculators of twelve men. The increase in the European staff was caused by the opening of two vaccine circles—one in Behar and another in Orissa

Increase.

3 Operations.—The total number of operations performed during the year is shown in

Operations

STATEMENT No. II.

CIRCLES	TOTAL NUMBER VACCINATED		DIFFERENCE	
	1875-76	1874-75	Increase	Decrease
Calcutta and suburbs	40,171	41,900		1,727
Metropolitan Circles	471,866	402,985	68,871	
Darjeeling Circle	136,905	120,080	16,825	
Ranchee do	18,818	27,343		18,525
Sonthal Pergunnahs Circle	30,306	22,807	7,499	
Eastern Bengal Circle	96,440	110,050		14,110
Orissa Circle	1,293		1,293	
Behar do	4,328		4,328	
Dispensary vaccination	193,330	234,150		40,820
Total	988,858	959,671	29,185	69,682

Increase of work

Decrease of work

notwithstanding has been 29,185. Of this total number the circles contributed 795,519, rather over 80 per cent., and the dispensaries the remainder, something less than 20 per cent. The two new circles, which were opened rather late in the season, have each contributed a comparatively small number of operations. The decrease in the case of the Calcutta, Ranchee, and Eastern Bengal circles, will be sufficiently explained below; though any falling off is unsatisfactory, and much to be regretted. The total number of vaccinations falls short of

one million by only 11,000 cases; but even had the number been reached, we should even then have protected only a moiety of the requisite number, viz. 2,040,000, which we obtain by taking the birth-rate at 30 per 1,000, and the population at 68 millions in the whole province of Bengal.

Successful
operations.

4. *Successful operations*—These are shown in detail in table A in the appendix, and the

STATEMENT No. III.

CIRCLES.	RATIO PER CENT. OF SUCCESSFUL CASES.			
	In primary vaccination.		In secondary vaccination.	
	1875-76.	1874-75.	1875-76.	1874-75.
Calcutta and suburbs	99'87	99'79	15'59	17'95
Metropolitan Circles	99'8	99'80	13'86	65'88
Darjeeling Circle	95'1	94'45	78'70	.....
Ranchee do.	80'47	87'00	.....	.....
Sonthal Pergunnahs Circle	98'27	98'99	.....	.....
Eastern Bengal Circle	99'72	99'53	41'68	75'00
Orissa Circle	94'61	.....	.....	.....
Behar do.	87'46	.....	27'77	.....
Dispensary vaccination	91'31	92'85	70'44	71'49
Total	97'2	96'53	21'40	23'41

High rates of
success in Calcutta,
&c.

21.49 per cent., were successful. It will be observed that the Calcutta, Metropolitan, and Eastern Bengal circles, maintain their high percentages, and the superintendents vouch for the accuracy of the figures from personal verifications. The Darjeeling and Sonthal Pergunnahs circles, as well as the dispensaries, have improved their rates; while the Ranchee rate has decidedly declined. The provincial total is better than last year's. The ratio of secondary, or re-vaccination, has declined by 2 per cent.

Number of
operations per
vaccinator.

5. *The number of operations performed by each vaccinator*.—This is shown in statement

STATEMENT No. IV.

CIRCLES.	Number of operations per man.	
	1875-76.	1874-75.
<i>Metropolitan Circles.</i>		
Metropolitan Circles	2,331	3,944.9
Sonthal Pergunnahs	1,913	914.0
Calcutta and suburbs	1,850	1,589
Darjeeling Circle ...	1,210	1,488
Eastern Bengal Circle	690	1,761
Ranchee Circle ...	270	1,494
Behar do. ...	68	.....
Orissa do. ...	.....	.....

year's; and is clear proof that the staff, though reduced by one-half, worked most energetically and successfully. The causes of the decrease in the Eastern Bengal and Ranchee circles will be further noticed when I review their working separately. The mean of 950 per man is a fairly satisfactory figure.

Sex of the
vaccinated

6. *Sex of the vaccinated*.—The sex is registered of 772,900 persons; of whom 406,419

STATEMENT No. V.

CIRCLES	1875-76.		1874-75.	
	PERCENTAGE OF		PERCENTAGE OF	
	Males.	Females.	Males.	Females.
Calcutta and suburbs	54.71	45.29	54.1	45.9
Metropolitan Circles	52.46	47.54	52.2	47.8
Darjeeling Circle	53.13	46.86	54.5	45.5
Ranchee do.	49.67	50.32	54.4	45.6
Sonthal Pergunnahs Circle	51.78	48.21	49.5	50.5
Eastern Bengal Circle	50.78	49.21	50.9	49.1
Orissa Circle	52.51	47.49	.....	.....
Behar do.	51.23	48.77	.....	.....
Dispensary vaccination	57.07	42.92	56.76	43.24

in every circle except that of Ranchee. The higher proportion of males in Calcutta is due to the preponderance of male over female emigrants. In the Metropolitan circles the figures remain much the same as in the preceding year. In the Darjeeling circle the proportion of

ratios of success in primary and secondary cases in statement No. III. Out of the total number vaccinated, 919,770 were successful, or 93.01 per cent. This figure is lower than that given in the adjoining statement, and is to be explained by the following reason, viz. that re-vaccination always gives a much lower rate of success. Out of 25,276 re-vaccinations included in the total number of operations, only 5,348, or about

No. IV. The Metropolitan, Sonthal Pergunnahs, Calcutta, and Darjeeling circles, show considerable improvement; but the Ranchee and Eastern Bengal ones a serious falling off. The Behar circle exhibits better results than the new circle in Orissa, which has done little work. The Metropolitan circles, as usual, occupy the first place, and show an average twice as great as that of the Sonthal Pergunnahs, which stands second in the list. This is very creditable, and proves the thorough efficiency of the Superintendent and his staff. The Sonthal Pergunnahs circle shows an increase in its average of more than double, as compared with the preceding

were males, and 366,481 females, or 52.5 and 47.5 respectively, against 53.5 and 46.5 of the preceding year, showing an improvement in the proportion of females vaccinated. Dispensary vaccination still shows a smaller percentage of females than the regular circles exhibit; but the proportion this year is higher than formerly; and so far is a healthy sign. Males preponderate

females has slightly risen ; while in the Ranchee it has risen considerably, and even exceeded the proportion of males. In the Sonthal Pergunnahs, on the contrary, the proportion of females has declined. In Eastern Bengal the difference between the proportion of men and women vaccinated is very small.

7. *Caste of the vaccinated.*—This is noted of 772,900 persons, of whom 1,392 were

STATEMENT No. VI.

CIRCLES.	1875-76.				1874-75.			
	PERCENTAGE OF							
	Christians.	Hindoo.	Musulmans.	Other castes.	Christians.	Hindoo.	Musulmans.	Other castes.
Calcutta and suburbs	2'16	71'5	26'34	.....	2'5	65'0	32'5	.....
Metropolitan Circles	1'8	67'08	32'73	.....	0'3	62'7	37'1	.....
Darjeeling Circle	0'8	10'71	75'67	4'38	0'1	25'8	74'2	2'6
Ranchoe do.	0'1	81'66	7'45	10'87	53'6	5'5	40'8	.....
Sonthal Pergunnahs Circle	1'3	29'64	8'51	62'71	1'0	29'1	7'7	62'2
Eastern Bengal Circle	.....	40'07	59'58	.....	.....	54'6	64'8	.....
Orissa Circle	2'4	89'1	8'5	.....	.....	.....	.....	.....
Behar do.	3'5	81'9	17'84	.....	.....	.....	.....	.....
Dispensary vaccination	1'11	68'84	22'81	7'24	0'89	66'61	20'67	11'88

Christians, 419,618 Hindoos, 325,109 Mahomedans, and 26,781 belonged to other castes, giving relative proportions 18, 54·16, 42·06, and 3·46 per cent. The corresponding ratios of 1874-75 were ·39, 52·9, 41·7, and 5·4. The relative number of Hindoos and Mahomedans has risen, and that of Christians and "other castes" has declined. The corresponding proportions for the whole of Bengal are Christians 1, Hindoos 64·8,

Caste of the vaccinated.

Comparison with previous years.

Census results.

Mussulmans 31·4, and other castes 3·7, and those of the population of the several circles, derived from the census report, may be approximately represented as follows :—

STATEMENT No. VII.

AREA.	Christians.	Hindoo.	Mussulmans.	Other castes.
Calcutta and suburbs ...	4'8	65'1	29'7	4
Districts in Metropolitan Circles ...	3	61'1	38'1	2
Ditto in Darjeeling Circle ...	0'8	84'6	64'6	5
Ditto in Ranchoe do. ...	4	71'1	4'8	23'7
Ditto in Sonthal Pergunnahs ...	0'8	50'8	6'6	42'7
Ditto in Eastern Bengal ...	3	42'4	57'2	1
Ditto in Orissa Circle ...	2	98'6	2	2
Patna City ...	.....	88'	12	.....

These results are fairly in accord with those in statement No. VI, though differences are apparent in certain circles, which may be partly explained by the fact that vaccination was carried on exclusively in one or two districts, where the relative numbers of the local castes vary from the average of all the districts given in statement No. VII, and partly by the Hindoos of the Darjeeling and Ranchoe circles being more conservative than the Mussulmans.

Comparison of vaccine and census results.

8. *Age of the vaccinated.*—The age was recorded in 772,800 cases, of which 53,113

STATEMENT No. VIII.

CIRCLES.	1875-76.		1874-75.	
	PERCENTAGE.			
	Under one year.	Above one year.	Under one year.	Above one year.
Calcutta and suburbs	20'88	79'12	21'8	78'2
Metropolitan Circles...	6'5	93'5	8'2	91'8
Darjeeling Circle	5'93	94'06	6'6	93'4
Ranchoe do.	8'31	91'68	5'3	94'7
Sonthal Pergunnahs Circle	14'64	85'35	8'2	91'8
Eastern Bengal Circle	5'47	94'52	8'4	91'6
Orissa Circle	4'4	95'6	...	...
Behar do.	12'92	87'06	...	...
Dispensary vaccination	18'2	86'8	15'05	84'95

were under, and 719,787 above, one year, or about 7 and 93 per cent. respectively, against 9·4 and 90·6 in 1874-75. There was thus a falling off in infant vaccination, which is comparatively always limited. This is due to the prejudices of the people, who, from their experience of the risks of inoculation, are always averse to have their infants vaccinated. Calcutta still stands at the head of the scale of infant vaccination. Dispensary vaccination comes

Age of the vaccinated.

Falling off in infant vaccination.

Cause.

Figures of dispensary vaccination not to be depended upon.

next, but the figures are probably less to be relied on. The Sonthal Pergunnahs and Ranchoe circles exhibit some improvement, while those of the Metropolitan, Eastern Bengal, and Darjeeling, show a falling off. The Behar circle seems to have made a good commencement as regards infant vaccination, while the Orissa circle stands lowest in the

scale. It is to be hoped that with the progress of vaccination the prejudices of the people will disappear, and infant vaccination may become the rule, as in all civilised countries.

Cost of vaccination

9. *Cost of vaccination.*—The aggregate cost of vaccination, as shown in table A, was Rs. 1,05,800-9-11, against Rs. 1,02,069-2-3 in 1874-75—an increase of Rs. 3,731-7-8, due to the opening of the two new circles. The cost to Government amounted to Rs. 96,629-5-8, or about 90 per cent., and the remaining 10 per cent. was paid by municipalities and local sources. The circles cost Rs. 95,726-6-2, as shown by table III, which fell considerably within the sanctioned amount. Of this sum Government paid all but Rs. 3,708, which was contributed by the Calcutta City and Suburban municipalities. The Metropolitan circles slightly, and the Sonthal Pergunnahs considerably, exceeded the sanctioned grant; and this was caused by the active employment of part of the Metropolitan establishment during the recess in stamping out

STATEMENT No. IX.

CIRCLES.	Average cost of each successful case.			
	1875-76.		1874-75.	
	Rs.	A. P.	Rs.	A. P.
Calcutta and suburbs	0	7 2	0	6 11
Metropolitan Circles	0	1 3	0	1 6
Darjeeling Circle	0	2 8	0	2 6
Ranchee do.	0	14 6	0	7 5
Sonthal Pergunnahs Circle	0	2 1	0	2 6
Eastern Bengal Circle	0	1 10	0	1 8
Orissa Circle	1	5 10	....	....
Behar do.	0	6 3	....	....
Dispensary vaccination	0	1 1	0	0 1
Average	0	1 10	0	1 10

small-pox and for collecting the vaccine census, during which time they received full pay. In the case of the Sonthal Pergunnahs, the excess was due to a misunderstanding of the Government orders on the subject. The average cost of each successful vaccination remains the same as in 1874-75. In some of the circles the average cost has risen, notably in that of Ranchee, where the cost is double of what it was in the preceding year, without any satisfactory explanation having been afforded. Of the two new circles, Orissa shows a very high figure owing to its scanty work; while the cost of the Behar circle is moderate, the circumstances of a new establishment being fairly taken into consideration. In the Sonthal Pergunnahs and Darjeeling circles, each exhibits a diminution in cost. The figure for the Metropolitan circle is the lowest in the scale, and is evidence of constant supervision and creditable energy on the part of the Superintendent.

Cost of each successful case

10. As the reports of the various vaccine circles submitted by the superintendents are not to be printed, I shall give a summary of them, with extracts from them here and there, when this course appears desirable. And first of all I shall begin with the Presidency Vaccine Department.

CALCUTTA AND ITS SUBURBS.

11. *Calcutta and its Suburbs.*—Dr. T. Edmonston Charles, M.D., who had the general superintendence of the Presidency circle during the year, has submitted a clear, full, interesting, and instructive report.

Establishment

12. The establishment underwent some changes; the former Superintendents were transferred to other posts, and their places were filled up by new men. Baboo Kassi Chundra Dutt, the Superintendent of the South division of the town, was appointed in the month of June to the Dacca School of Medicine, and Baboo Kalidas Bose, the Superintendent of the North division, was transferred in the middle of December to Patna, to assume the superintendence of the new Behar circle. Baboos Ram Chunder Mitter and Ashootosh Goop to were appointed to the North and South divisions of the town respectively.

There were some changes also in the subordinate ranks. A head vaccinator, who had served for a quarter of century, died during the year. One vaccinator was discharged for negligence, and another was permitted to join the Behar circle as a head vaccinator. The vacancies thus caused were filled up by promotions, while three men joined the establishment.

Numbers vaccinated

13. *Numbers vaccinated.*—The operations done during the year amounted to 40,173, against 41,300 in 1874-75, showing a slight decrease of 1,127. The work, as distributed in the different divisions and as contrasted with the previous year, is shown in the following statement:—

STATEMENT No. X.

	1875-76.	1874-75.	Increase.	Decrease.
Town	7,022	9,840	..	2,818
Suburbs	11,662	11,998	..	436
Coolie Depôts	21,689	19,414	2,175	....

Comparison with previous year

From this table it appears that the numbers vaccinated in the town and suburbs during the year fell short of those operated upon in 1874-75. But last year's figures were exceptionally large, and were run up under the pressure of an epidemic of small-pox, which made the establishment more energetic in pressing vaccination, and the people more willing

to accept it. Though the work fell short as compared with 1874-75, still, as Dr. Charles shows, the numbers were higher than those of any of the previous five years:—

STATEMENT No. XI.

Years.	Town.	Suburbs.
1875-76	7,022	11,562
1873-74	6,817	8,360
1872-73	6,588	9,807
1871-72	4,876	6,899
1870-71	5,390	7,024
1869-70	5,463	7,440

The character of the vaccination remained as high as ever, the ratio of successful cases being 99·87 per cent.—a result which Dr. Charles vouches for from personal inspection and verification, and which demonstrates how admirably he has trained his men, and how zealously they carry out the practical lessons which he, by precept and example alike, has pressed home upon them. Under heading of “Progress of Vaccination,” Dr. Charles gives several instances of vaccination having been introduced for the first time into many houses of the town. So many as 546 houses were for the first time brought under the protection of vaccination.

Percentage of success.

14. Small-pox prevailed in Calcutta, but not epidemically, as during the preceding year. The number of deaths from that disease during the different months were as follows:—April (1875) 172, May 85, June 46, July 23, August 12, September 8, October 2, November 2; January (1876) 1, February 7, and in March 20. The disease was not confined to any particular locality, but cases were met with in almost every part of the town, notably in Taltollah, Jaun Bazar, Collingah, Bow Bazar, Sankaritollah, Puddopooker, Nebootollah, Beparitollah, Zig-Zag Lane, Elliot Road, Gorastan Lane, Camac Street, Wood Street, &c., &c., in the South division; and in Machooa Bazar, Rajarbagan, Simla, Manicktollah Street, Cornwallis Street, Shampookur Lane, Hogulcoorea, Bulloram Day's Street, Jorabagan, Goabagan, Pathooriaghatta, Aheeritollah, Gurrnhuttah, Hatkhollah, Prossono Coomar Tagore's Street, Coomertollie, Jhamapookur, Colootollah, &c., &c., in the North division. The suburbs, both north and south, also furnished cases, as Entally, Ooltadangah, Manicktollah, Balliaghatta in the north suburbs, and Garden Reach, Subjee Bagan, Alipore, Watgunge, Sonie, Moocheekholla, Doogdoogee in the south of Calcutta. Dr. Charles deduces two lessons from the prevalence of small-pox throughout the town—(1) that despite all efforts and exertions of vaccinators hundreds of adults come to Calcutta, and reside for a longer or shorter period in an unprotected state, and these are the persons who are very apt to catch the disease when it goes about; and (2) that in a great metropolis like Calcutta, in spite of small-pox being imported again and again, it has been kept down within such narrow limits as not to assume epidemic dimensions, showing thereby that the population is so well protected that it can be exposed to such a severe risk with but feeble risk of suffering.

Small-pox in Calcutta.

Deductions from the prevalence of small-pox throughout the town.

15. Dr. Charles continues to supply vaccine lymph in tubes to those that ask for it, and he passes every supply himself. The lymph, when put in tubes, is said by Dr. Charles to be most perfect; but the delay in transmission to distant places is apt to decompose it, and by the time it arrives at its destination it has often entirely lost its potency. Salicylic and boracic acids are now being tried by him as reagents for preserving the vaccine lymph during its transit, and the advantage or otherwise from their use will hereafter be fully detailed.

Vaccine lymph.

Reagents for the preservation of lymph.

16. Dr. Charles reports very highly of the services rendered to the cause of vaccination by his old superintendents Baboo Kalidas Bose and Kassi Chundra Dutt. The latter, he says, has got his reward in his promotion to the Dacca School of Medicine, and the former he recommends for an appointment in the Metropolitan circles. I need hardly say how gladly I shall recommend his protégé when an opportunity occurs. Regarding the two new superintendents, Dr. Charles says that up to the present time he is perfectly satisfied with them. Dr. Charles's unremitting zeal, earnestness, and energy, are so well known to Government, that it is almost supererogatory to remark that he continues to apply himself with his usual devotion to this great and important work. He must almost be fully rewarded by the splendid success which he and his establishment have achieved.

Officers recommended

17. *The Metropolitan Circles.*—Surgeon K. P. Gupta, M.B., who held the superintendence of the circles throughout the year, has submitted a detailed and interesting report. The establishment remained as before.

METROPOLITAN CIRCLES

18. The extent of the circles was augmented by the addition of the southern half of the Jessore district, so that the circles now include six districts,—24-Pergunnahs, Nuddea, Jessore, Burdwan, Hooghly, and Howrah,—comprising an area of about 15,000 square miles, and containing a population of nearly 10,000,000.

Extension of area.

Programme embracing the season's operations.

19. A sensible programme embracing the season's operations which was prepared by Dr. Gupta, and by me submitted formally to Government, was approved and sanctioned after due consultation with the local civil authorities. The vaccinators were sent out in the middle of September, after the usual preparations had been made, viz. the local civil authorities were informed and requested to give every aid. The work of the season was partly carried on in the southern half of the district of Jessore—a country intersected by innumerable rivers and khals, rendering the duties of the vaccinators very hard and unpleasant. In addition to the physical difficulties encountered by the men, they experienced other obstacles in the shape of strong prejudices; worse still, sickness in the form of an epidemic of cholera, &c: but by tact, determination, and perseverance, all difficulties were eventually surmounted. Besides the three subdivisions of Jessore, viz. Magoorah, Khoolna, and Bagirhat, where vaccination was introduced for the first time, several thanas in the south of 24-Pergunnahs, in Howrah, and also in Burdwan, were protected; some for the second, and others for the third time. The system pursued was precisely the same as formerly—continuous systematic progress by gangs under close inspection, exhaustive protection of definite areas radiating from a centre, and arm-to-arm vaccination.

20. The amount of work done is described in the following abstract from Dr. Gupta's report:—

“The remaining portions of the Jhenida and Nurrail subdivisions (Jessore) have been thoroughly done this year. The whole of the Magoorah subdivision has been completely protected. The Khoolna and Bagirhat subdivisions have also been done, with the exceptions noted in the detailed descriptions:—

“Thanas Sonarpore, Tollygunge, Alipore, Baraipore, Joynuggur, Motoorapore, and Sooltanpore, in the south of Calcutta; thanas Ampta and portions of Juggutbullubpore Domjoor, and Khanacool, in the Howrah district; parts of Bansberiah and Kistonuggur, in Hooghly; and parts of Burdwan, Sahibgunge, Kotulpore, Indos, Koksa, Ausgram, and Raneegunge, in Burdwan, were all protected a second time; and also portions of Assasoonce, Kallarua, and Kalligunge, in the 24-Pergunnahs, were protected.”

Season's works compared with previous years.

21. The work of the season is shown in the following table as compared with the preceding four years:—

STATEMENT No. XII.

CIRCLES.	1871-72.			1872-73.			1873-74.			1874-75.			1875-76		
	Area in square miles	Number of villages.	Number of successful operations.	Area in square miles	Number of villages.	Number of successful operations.	Area in square miles	Number of villages.	Number of successful operations.	Area in square miles.	Number of villages.	Number of successful operations.	Area in square miles	Number of villages.	Number of successful operations.
1st Circle.	980	287	23,501	925	1,085	83,907	1,105	1,524	80,400	1,866	1,943	128,132	1,375	1,467	120,617
2nd do.	551	286	17,396	1,079	946	74,666	688	1,282	57,711	1,368	1,553	80,615	795	1,540	99,042
3rd do. ...	720	440	45,097	1,097	1,185	108,638	1,333	1,844	167,791	1,469	2,000	192,730	1,067	4,661	262,147
Total	2,251	973	90,994	3,101	3,216	267,111	3,126	4,650	305,908	4,203	5,496	401,468	3,237	7,668	471,806

Arithmetical summary of work done.

The work of each circle, with the exception of the first, is thus shown to be far in advance of that of any previous season. On the whole, the operations exceeded those of 1874-75 by 69,471, and the successful operations by 70,320. The latter, i.e. the successful operations, amounted to nearly 5 per cent. of the population of the circle—a rate which exceeds the (3 per cent.) birth-rate. The Superintendent does not hope for an increase of work in future years. He recommends that some consideration should be shown to his staff, who work very hard and achieve such excellent results, and when the time is less unpropitious financially, it may be expedient to make a recommendation to Government.

Cost of each successful case.

21. Owing to the increase of work the cost of each successful case has fallen from annas 1-6 to annas 1-3, the rate being unprecedentedly low. The quality of the vesicle, and the amount of success obtained, are also shown to have been in the highest degree favourable.

Inspections

22. The Superintendent details his tours of inspection, which extended to every part of his circle. He inspected every gang twice, and some three times. He visited altogether

34 villages, situated in 33 thanas and five districts, and inspected over 46,500 cases. The following table shows the result of his inspection:—

STATEMENT No. XIII.

	VACCINATED IN FOUR POINTS, OF WHICH THREE WERE SUCCESSFUL					VACCINATED IN TWO POINTS, OF WHICH THREE WERE SUCCESSFUL			Doubtful.	Sore arms.	Compared with regis- ters	Total.	Absent.	Grand total.
	4	3	2	1	Failed.	2	1	Failed						
Seen after 18th day	32,001	338	114	44	54	827	19	.	6	1	85,482	85,482	1,756	35,238
Do from 13th to 16th day	5,122	34	15	5	1	61					5,238	5,238	164	5,392
Do " 9th to 12th "	3,329	24	7	.	3	24	2		1		3,390	3,390	59	3,449
Do " 5th to 8th "	2,929	34	22	5	13	20		1	4		3,037	3,037	60	3,097
Do " 1st to 4th "	1,417										1,417	1,417	10	1,427
Total	45,398	428	158	54	51	441	21	1	11	1	46,564	46,564	2,039	48,603

Statement showing
the results of
inspection by
Superintendents

The percentage of successful cases was 99·88, and of successful points 99·88.

23. The three Deputy Superintendents were also assiduously employed in supervising and verifying the work of their respective circles. In the first circle 44·88 per cent. of the vaccinations were seen, in the second 41·33, and in the third 39·16—differences which must always be looked for where the natural difficulties in the way of locomotion vary so much in the several divisions of the country.

Deputy
Superintendents.

24. The following extracts are taken from Dr. Gupta's report regarding inoculation and small-pox:—

"Every year some progress is made in teaching inoculators the art of vaccination. Two ex-inoculators joined the second circle in December last, being taken as substitutes in the room of absent apprentices. Two inoculators—Koylash Chunder Roy and Mohesh Chunder Pramanick—were sent down by the Deputy Magistrate of Satkhira for instruction; they were attached to the third circle. These men received from Satkhira a monthly allowance of Rs. 4 each for the period they were under tuition. When they became skilled vaccinators, they received certificates and returned to Satkhira to practise on their own account. One man came from Jehanabad, and was successfully taught vaccination.

Inoculation and
small-pox.

"A number of inoculators from Jessore applied directly to His Honor the Lieutenant-Governor praying for employment. After some correspondence the Government sanctioned a tuition allowance of Rs. 4 to each man, and ordered the men to be taught vaccination in the Metropolitan circles.

"The inoculators from Jehanabad in Burdwan, from Kallygunge in 24-Pergunnahs, and from Khurdah, who had received certificates in previous years, practised the art among their clients, and thereby earned their livelihood.

"From my first connection with the Vaccine Department I have always advocated the training of inoculators as vaccinators; but at the same time I took care to insist on a thorough and careful training under competent teachers. After acquiring the requisite skill and ability to vaccinate, they should receive a certificate of fitness, and be then allowed to practise on their own account, but still subject to supervision by competent native superintendents or inspectors.

"Fifty-eight reports on the outbreak of small-pox were received between 1st April 1875 and 31st March 1876. In 41 the disease was found to be small-pox, in 10 chicken-pox, in 5 the report was groundless, and in two the people refused to give any information. In 41 outbreaks of small-pox, 85 villages were affected and 477 persons were ascertained to be attacked; of these 101 died and 376 recovered. In 15 vaccination was performed in the houses in which cases occurred, and the spread of the disease was arrested; in 19 the people refused to take vaccination.

Number of reports
received

32 the villages were protected by vaccination and in 9 by inoculation.

"In 39 of the 41 outbreaks, the disease was traced to small-pox, and in 2 to inoculation. Of the persons attacked 15 were previously vaccinated, of whom all recovered; 24 were inoculated, of whom 5 died and 22 recovered, showing either that thorough vaccination confers more substantial protection, or that the preceding inoculation had been of a spurious character; 3 had previous attacks of small-pox, of whom all recovered; and 432 were unprotected, of whom 96 died and 336 recovered.

Previous protection
Disease caused by
inoculation

"Of the 41 outbreaks of small-pox, 23 occurred in the district of 24-Pergunnahs, affecting six villages in thana Tollygunge, three in Barrackpore, two in Dum-Dum, three in Bhangore, two in Kallaroa, one in Acheepore, one in Diamond Harbour, two in

Affected localities.

Joynuggore, one in Nawabgunge, one in Assasonee, two in Bankipore, two in Sooltanpore, one in Nyehatty, one in Bishtopore, and one in Mothoorapore.

Burdwan. "Nine outbreaks took place in the district of Burdwan, affecting nine villages in thana Poorbusthullee, two in Outwa, two in Bood-Bood, one in Culna, one in Muntessur, two in Aougram, and one in Sahibgunge.

Hooghly. "Six outbreaks occurred in Hooghly, affecting 25 villages in thana Hooghly, one in British Chundernuggur, one in Boidabatty, and three in Ballaghur.

Howrah. "Two outbreaks occurred in the district of Howrah, affecting six villages in thana Domjoor, and one in Juggutbulubpore.

"One was reported from Jessore, affecting one village in thana Daloottee."

Vaccinators supplied to municipalities, &c. 25. Several municipalities and a few private individuals applied for and obtained the services of trained vaccinators from the staff of the Metropolitan circles, for periods varying from one to six months, and at the rate of Rs. 12 per month. About 6,000 vaccinations were thus done by their instrumentality.

Results. 26. The results of the Metropolitan circles are very satisfactory, and exceedingly creditable to Dr. Gupta and his assistants Rai Jadub Chunder Ghose Bahadoor, Rai Ram Soondur Ghose Bahadoor, and Buddy Nath Brummo. The first-named assistant, Rai Jadub Chunder Ghose Bahadoor, is singled out for special praise for returning the largest number ever given, and deserves the favourable notice of Government. The Metropolitan circles have contributed one-half of the total number of vaccinations done in the whole of Bengal, and the work was of a high order, as proved by the personal inspection of the Superintendent and his deputies. For such good work increasing year after year, and with the lowest average cost (Re. 0-1-3), Dr. Gupta and his assistants are entitled to all the credit which is usually bestowed upon the good and faithful servants.

DARJEELING CIRCLE Establishment. 27. *Darjeeling Circle.*—Surgeon-Major R. Lidderdale, M.D., the Superintendent, has submitted a long, lucid, interesting, and exhaustive report. The establishment underwent some changes. One head vaccinator for the Darjeeling district was sanctioned, but no suitable incumbent could be found for it. Three vaccinators were also sanctioned to equalise the strength of the gangs. The increased pay allowed by Government in July 1875 enabled the Superintendent to get three competent inspectors of licensed vaccinators, or ex-inoculators as they are more commonly called. Owing to sickness the effective strength of all the gangs was always below par, and the whole staff suffered more or less. Two apprentices died, and some of the men had to be sent home convalescent. Dr. Lidderdale had to surmount another and a greater obstacle than sickness, viz. the obstructive and refractory behaviour of some of his staff. As the systematic vaccination of one district at a time was only introduced last year, the vaccinators thought they would be more frequently and more closely watched by the Superintendent than before, when they were allowed to work just as they liked, scattered in eight different districts, and they therefore tried to bring the work to a standstill. Their misconduct has led to the introduction of a form of agreement rendering it incumbent upon them to give a certain definite period of notice. Should this fail to remedy the inconvenience caused by sudden abandonment of their duties during the working season, it will be necessary to impose a further check by keeping recess pay in hand till the season is well advanced. The Superintendent gives the old inoculators altogether a bad character, and thinks these men rather impede than expedite or facilitate the work of vaccination.

Detail of work. 28. Vaccination was carried on by the Government establishment in the following districts, viz. Darjeeling, Dinagepore, Rungpore, Bogra, and Rajshahye. In the other districts, viz. Julpigoree, Purneah, and Maldah, no work was done during the season.

Above 1,000 persons were vaccinated in the Maldah district during the recess on account of the presence of small-pox. The following account is condensed from Dr. Lidderdale's report:—

Darjeeling district. "*Darjeeling District.*—The number of cases in this district was more than doubled; but as a head vaccinator could not be procured, the gang were not allowed to work during the Superintendent's absence in the plains, otherwise the numbers would have been larger.

Vaccination in tea-gardens. The presence of small-pox in the months of April and May, and of one case in August, stimulated the Superintendent and his staff to visit every part of the district, including all the tea-gardens, with a view to protect all unprotected persons. The coolies of one tea-garden only resisted the efforts of the establishment; all the rest have been thoroughly done. The members of the Darjeeling police force, including their wives and children, were all vaccinated. A house-to-house visitation by the Superintendent and his staff disclosed a dangerously large number of unprotected children at Darjeeling itself, and they were all protected. Dr. Lidderdale is of opinion that if Act IV (B.C.) of 1865 were introduced into the district, it would have a good moral effect on the hillmen, as well as on their neighbours, the Nepalese and Thibetians.

Dinagepore. *Dinagepore.*—The work in this district was in extension of former years. Two gangs were employed and operations were carried on in thanas Chintamun, Nawabgunge, in out-post Ghoraghat, and also in about three-fourths of thana Poteeram. The protected areas

in this district were joined on to those in Rungpore and Bogra. In all 932 villages in Dinagepore were visited by the establishment, and 22,560 persons were vaccinated; so that now six thanas in this district are reported to be protected. In addition to the work of the establishment, 1,357 persons were protected by the licensed vaccinators under Inspector Khetter Mohun Bose.

Rungpore.—One gang was employed, and operations were carried on in thana Gobindgunge, which had been partly gone over last year. Part of another thana (Bhownipore) was also done. In all 469 villages were protected. By the completion of Gobindgunge the protected area of Rungpore was added on to that of Bogra and Dinagepore, and now consists of thanas Molung, Peergunge, and Gobindgunge. The licensed vaccinators under Inspector Grish Chunder Ghose vaccinated 1,610 persons in the district of Rungpore.

Bogra.—Three gangs were employed in this district with a view to its completion, and operations were carried on in thanas Panchbibi, Sherepore, outpost Dhunat, and Seraikandi, with outpost Mudhoopore. The whole district is now thoroughly protected. In all 1,627 villages were visited by the establishment and by the licensed vaccinators. The number of persons vaccinated by the establishment was 48,160 and by the licensed vaccinators 16,309, under the supervision of Inspector Grish Chunder, so that the birth-rate of more than three years was overtaken.

Rajshahye.—Part of thana Singra was taken up as it joined on to the Bogra district, and by its protection the whole of the Pubna district, except where it abuts on thana Beereygram of Rajshahye, has been shut out from the Darjeeling circle of vaccination, thus lessening the chance of small-pox extending from a district like Pubna, still entirely given over to the inoculators. The gang worked well up to Januq, when they came near the police-station of Singree, where inoculators in a body offered great opposition, and put a great check on the work of the vaccinators. The Government establishment vaccinated 20,644 and protected 428 villages. The licensed vaccinators under Inspector Woomesh Chunder Mookerjee vaccinated 7,035 persons, of whom 6,865 were successful.

29. *Plan of season's operation and numbers.*—It will have been noticed that instead of the old desultory plan of scattering small gangs of vaccinators in several districts, the concentrated system was adopted. The operations were chiefly confined to Bogra, and to such parts of Dinagepore, Rungpore, and Rajshahye as made the protected areas one and continuous. The district of Bogra has been completely protected and made over to the licensed vaccinators. Next year the Rajshahye district will be similarly dealt with.

The number of persons vaccinated by the Government establishment fell considerably below last year's figures, viz. 109,867 against 120,669. This is satisfactorily accounted for by the sickness of the establishment, the misconduct of some of its members, and by the fact that many of the areas taken up had been gone over by private vaccinators. Another cause was the occurrence of fewer outbreaks of small-pox, which reduced the number of vaccinations during the recess from 11,916 in 1874 to 2,496 only in 1875. But adding the numbers given by the licensed vaccinators as shown in statement No. II, the work of the Darjeeling circle has increased by 16,236 cases.

30. Dr. Lidderdale was on inspection tour from 23rd October 1875 to 14th April 1876 in the plains, while in the hills constant supervision was maintained during the hot months. The Superintendent was, as usual, indefatigable in directing and supervising the work of his circle. The following table shows the result of Dr. Lidderdale's inspection during the past season :—

	VACCINATION IN FOUR POINTS, OF WHICH THREE WERE SUCCESSFUL					VACCINATION IN TWO POINTS, OF WHICH THERE WERE SUCCESSFUL			Doubtful	Compared.	Total.	Absent.	Grand total.
	4	3	2	1	Failed.	2	1	Failed.					
Seen after 16th day	183	25	9	2	2	10,877	993	234	17	12,342	12,342	609	12,951
Do. from 13th to 16th day ..	65	12	3	1	1	3,346	800	129	24	3,993	3,993	128	4,000
Do. " 9th to 12th " ..	64	12	3	8	2	3,576	393	168	100	4,330	4,330	110	4,440
Do. " 5th to 8th " ..	116	13	14	9	3	3,367	543	339	87	4,400	4,400	80	4,480
Do. " 1st to 4th " ..	...	...	...	...	.....	...	...	.....	...	1,945	1,945	77	2,022
Total ...	428	62	29	15	7	21,108	2,328	870	217	26,909	26,909	1,012	27,921

The number of cases inspected was 26,909. The percentage of success verified by the Superintendent was 89.42, against 94.01 in the returns. Dr. Lidderdale explains the difference by the indifferent work of one gang, to the inspection of which he devoted ten days.

The Deputy Superintendent verified 13,918 cases, and is said to have been active and hardworking throughout the season.

31. Dr. Lidderdale is anxious to replace the system of vaccinating with needles by that with lancets, which gives so much better results. The three inspectors imported from the Metropolitan circles taught the use of the lancets only to licensed vaccinators. There is a prospect of the new system being exclusively practised in the next season.

Small-pox during
1875.

32. There was not much small-pox in the Darjeeling circle during the year 1875. No cases were reported from Rungpore—a fact which had never before happened in Dr. Lidderdale's experience. Cases were reported from Bogra, Maldah, and Dinagore, and 24·94 vaccinations were required to suppress the disease. Some cases occurred in the Darjeeling district during the hot weather. Inoculation is still practised in some districts of the circle, and it gives rise to outbreaks of small-pox, as was the case in Rajshahye. The Act IV (B.C.) of 1865, prohibiting the practice of inoculation, was introduced last year into the Bogra district: it is in force in Darjeeling station, and in four thanas of Rajshahye.

Licensed
vaccinators

33. *Licensed Vaccinators.*—The higher rate of pay allowed by Government enabled Dr. Lidderdale to obtain three competent inspectors from the Metropolitan circles. One was appointed to Maldah and Rajshahye, one to Bogra and Rungpore, and the third to Dinagore, Purneah, and Julpigoree. They appointed 29 men, and instructed them how to vaccinate with the lancets. When they had become sufficiently proficient, they obtained "licenses" or perwannahs to work under the supervision of the inspectors, but on their own account. They received no pay from Government; the people whose children they vaccinated were expected to pay them: four annas for a boy and two annas for a girl. They sometimes experienced difficulty in realizing their fees, but it is hoped that as the people get accustomed to, and learn to appreciate fully, the advantages of vaccination, they will pay the very moderate amount herein noted freely, even cheerfully. The number of persons operated on by 29 licensed vaccinators was 29,911, with a success of 98·48, which was more than verified by the Superintendent's inspection in Bogra. Dr. Lidderdale deprecates the practice of vaccination by private individuals, who would not submit to any sort of supervision.

Lymph

(General conclusion.

34. Lymph was supplied to several civil and regimental surgeons from Darjeeling.

35. On the whole the report of the past season indicates good work, and much credit is due to Dr. Lidderdale for the energy and thoroughness with which he applies himself to his important duties, and for the decided success which he secured in the face of difficulties which might have checked a less competent and zealous Superintendent.

RANCHEE CIRCLE.
Establishment

36. *Ranchee Circle.*—Surgeon J. J. Wood, M.B., held the superintendence of this circle from 1st April to 8th March 1876, when he made over charge to Surgeon G. C. Roy, M.D., who submits the report. The establishment remain unchanged, viz. 1 superintendent, 3 native superintendents, and 20 vaccinators.

37. During the recess one-half of the vaccinators were attached to dispensaries, and the rest went home on leave. When reports of the outbreak of small-pox were received, vaccinators were sent to stamp out the disease.

Programme of the
season's work.

38. The season's work was not commenced till November, owing to the failure of lymph during the hot months. A supply was eventually obtained from Calcutta in order to start the season's work, but I am scarcely satisfied that there was due energy in this matter. The establishment was divided into three gangs, each under a native superintendent. One gang, under Native Superintendent Baij Nath Shah, worked in thana Huntergunge in Hazareebagh for three months, when the native superintendent was ordered to proceed to Burhee with three men, leaving the rest of the party to complete the protection of that thana. The latter did almost no work, and were therefore ordered to go to thana Pagar, also in the same district, with a view to protect the remaining portions left unprotected by Native Superintendent Mahee Bux. This gang visited 229 villages and vaccinated 3,848, of whom 2,766, or 76 per cent., were successful. Dr. Wood inspected their work only once in the beginning of December. The second party or gang, under Native Superintendent Mahomed Ishak, worked in Palomatu and Pankey in Lohardugga, and Palamow districts, respectively, and visited 326 villages, and vaccinated 3,419 persons, of whom 2,081, or 71 per cent., were successful. The work of this gang was inspected twice by Dr. Wood. One vaccinator of this batch was, agreeably to a circular from this office, placed under the Regimental Surgeon of Durundah, to protect the cantonment bazar. He vaccinated only 73 cases in two months. Dr. Roy remarks that the services of this vaccinator were lost to the department, and thinks it is the duty of the municipal vaccinator of Ranchee to attend to the cantonment. The third party, under Native Superintendent Ellahi Bux, worked in Chittia Pagar, in the Hazareebagh district, and then proceeded southwards to Burwa thana in Lohardugga. They visited 290 villages and vaccinated 5,802 persons, of whom 4,884, or 86 per cent., were successful. Dr. Wood inspected this gang once in December, and Dr. Roy once in March. The season's operations were confined to some parts of Hazareebagh, Lohardugga, and Palamow.

Decrease in the
number vaccinated

39. The numbers vaccinated by this circle have fallen off by one-half, while only the usual causes are assigned to account for this, such as the negligence of some of the staff, and the prejudices of the people, neither of which do I consider sufficient or satisfactory. It is the duty, and ought to be the pride, of a superintendent to overcome obstacles and; only when he does so by tact, talent, and resolution, does he justify his appointment. Some unpaid apprentices worked with the gangs, and are said to have vaccinated 3,046, creditably too; with a success of 92 per cent. Both Drs. Wood and Roy recommend a subsistence allowance of Rs. 5 for some of them. Besides the work done by the apprentices and the paid establishment in this

circle, vaccination was also carried on by the ex-inoculators of Manbhoom. Altogether 75 ex-inoculators were employed during the season in the district of Manbhoom; they visited 748 villages and vaccinated 48,495 persons, of whom 26,872, or 77 per cent., were inspected by the Civil Surgeon, Mr. Wilson. In the Singhbhoom district 14 ex-inoculators worked and vaccinated 8,205 cases, of whom 3,504 were verified by the Civil Surgeon, Mr. Manook.

In Hazareebagh several ex-inoculators received perwannahs to carry on vaccination, but they have submitted no returns of their work. They should have been made to do so, or measures taken to prohibit them from continuing to carry on their operations.

Hazareebagh.

In Lohardugga 27 inoculators were employed in vaccination with the superintendent's perwannah, and worked in almost all the thanas in the district. Fifteen of them returned 7,963 operations, but without any information regarding the rate of success—a circumstance which the superintendent was bound promptly to see to.

Lohardugga.

40. Small-pox prevailed in all the districts, and counted 303 deaths, which were thus distributed:—Lohardugga 203, Manbhoom 35, Hazareebagh 41, and Singhbhoom 21. If these figures are trustworthy, Lohardugga appears to be the least protected district in the Ranchee circle.

Mortality from small-pox

41. No account is given in Dr. Roy's report of the number of cases inspected by his predecessor, who paid two visits to one gang and one visit to each of the other two gangs. Dr. Roy took charge at the close of the season, and paid one visit to the party that worked north of Ranchee, inspecting 127 cases.

42. No vaccine census was collected by Dr. Wood. The jail convicts and the police of Ranchee were examined with the following result, viz 25 per cent. of the jail and 1·19 per cent. of the police population were found unprotected. If what is stated of the convicts be correct, the officer in medical charge of the jail should lose no time in vaccinating all the unprotected prisoners; and to this serious omission his attention has now been most peremptorily drawn.

Jail population unprotected.

43. *Sonthal Pergunnahs*.—The establishment underwent several changes. Assistant Surgeon Sonatun Bysack was transferred, and Assistant Surgeon Mothoora Nath Sein was appointed in his place as Deputy Superintendent, from the beginning of October. The working staff, which mustered 25 strong in 1874-75, was reduced by dismissal and desertion to 12 men! The Civil Surgeon of the Sonthal Pergunnahs tried to procure trained men to fill up the vacancies, but failed. Only one vaccinator was found to accept an appointment, thus increasing the number to 13.

SONTHAL PERGUNNAHS.

Establishment.

44. Agreeably to instructions, a concentrated system of vaccination was adopted, and operations were confined to two subdivisions, viz Rajmehal and Godda. The work made good progress during October and November, when outbreaks of small-pox at several places greatly interfered with systematic vaccination. Another obstacle presented itself, viz. sickness, chiefly fever and enlargement of the spleen and liver, among the vaccinators. During the year eight vaccinators worked in the Rajmehal subdivision, visited 200 villages, and vaccinated 11,528 persons. In the Godda subdivision three vaccinators and three ex-inoculators were employed, who visited 73 villages and vaccinated 5,416 persons. In the Pakour subdivision small-pox broke out in several villages in the month of February, and two vaccinators were sent to arrest the disease. The people at first refused to accept vaccination, but with the assistance of the subdivisional officer (Baboo Sosheebhoosun Dutt) 80 villages were protected and 4,495 persons vaccinated. A few villages in the Jamtara subdivision were done during the recess, and also in October and November. No work was done in Deoghur.

Adoption of a concentrated system of vaccination

45. The total number vaccinated during the year was 30,306, against 22,867—an increase of 7,439; with a success of 93·23, against 93·98 in 1874-75. The average cost of each successful case is also less than before.

Total vaccinated

46. The Deputy Superintendent inspected each vaccinator's work four or five times, and saw 9,037 cases, or 29·81 per cent of the total number of operations. He visited 190 villages. The ratio of success according to his inspection was 97·24, against 98·23 of the general returns. The work of vaccination and inspection in the Sonthal country is beset with difficulties, owing to jungles, want of roads, and a sparse population. The people themselves—Sonthals and Paharees—are docile, and do not offer much opposition; while Mahomedans and low caste Hindoos are greatly opposed to vaccination.

Inspection by Deputy Superintendents.

47. The following extracts regarding small-pox and inoculation are taken from the report:—

Extracts regarding small-pox and inoculation.

"During the non-working season, i.e. from April to the end of September, five villages in Rajmehal, and six in Pakour subdivision, were visited with small-pox. A total number of 66 persons were ascertained to have been attacked. Of these 14 died and 52 recovered. In six of these villages vaccination was performed around the infected persons, and the spread of the disease was arrested. In five the people refused to take it.

"From October to the end of March 42 villages were infected with small-pox. A total number of 226 persons were attacked with the disease. Of these 22 died. One hundred and thirty-five of these cases were reported from Rajmehal with fifteen deaths, 65 from Pakour

with four deaths, and 26 from Godda with three deaths. In 40 villages vaccination was performed to arrest the spread of the disease, while in two—Mohadebgunge and Kodarjona—the people were opposed to receive it. These two villages are chiefly inhabited by Mahomedans and low caste Hindoos called “Khyrwars.” They still look on vaccination with fear, although many in their neighbourhood have experienced its beneficial effects, and none of them have got the disease, though they lie next to their doors. The people of Mohadebgunge at first tried to conceal the fact of the occurrence of small-pox in their village; but when it became known to me, I went to inspect their villages, and explained to them the noble purpose which had brought me there. But so rude and ignorant were the people, that they would not give even any certain information about the number of cases attacked, and of the deaths thereby caused. I tried much to introduce vaccination among them, but to no effect.

“Fifty-one of the total number attacked had old inoculation, and seven were previously vaccinated; others were unprotected. The outbreak in most of the places was of a mild nature. The origin of the disease could not be ascertained in six villages, while in others it was clearly traceable to intercommunication with the infected places.

“Services of extra vaccinators Baney Madhub Chuckerbutty, Aukhoor Chunder Dass, and Nilmoney Dass, having been dispensed with, they applied to me for work on their own account; and four men, viz. Dinonath Dass, Heera Lall Acharjee, Jadub Chunder Dass, and Meghram, came to me for instruction. They were fully instructed, and were allowed to practise. Two of them, viz. Jadub Chunder Dass and Meghram, were placed, at the request of the Assistant Surgeon, in charge of the vaccination undertaken by the Rajmehal dispensary, under his supervision. The nature of their work has been reported by Baboo Woomachurn Mitter in his annual report on vaccination for the year 1875-76. The others worked under me in 40 villages in Rajmehal and Godda subdivisions. The total number of cases vaccinated by them was 2,945, with 2,885 successful operations, including the cases which proved successful after repetition. They were placed under strict supervision. Their work was inspected partly by me, and partly by the Native Superintendent Thacoor Dass Sircar. I am glad to notice that most of them worked from carefully selected vesicles only, and they have carried out my instructions in observing a uniform system with the vaccinators in operating on the upper arms in four points.”

48. A vaccine census was collected by the vaccinators. 39,032 persons belonging to 301 villages in the district were examined, of whom 50·78 per cent. were found inoculated, 44·89 vaccinated, 2·47 had had small-pox, and 1·86 unprotected. The census operations were not supervised, and the figures must therefore be received with caution.

49. The Deputy Superintendent seems to have done his duties well, and the establishment, though reduced to one-half, worked hard and successfully, and both deserve credit.

EASTERN BENGAL
CIRCLE

50. *Eastern Bengal Circle.*—The late Superintendent Baboo Bhoobun Mohun Mitter, died during the recess. Dr. Bose, Civil Surgeon of Furreedpore, was in charge from 17th October to 27th November 1875, when he was relieved by Mr. Lyons, the present Superintendent, who has submitted a full report of the proceedings of the past year. The establishment originally sanctioned for this circle was one Superintendent, 36 permanent and 36 extra vaccinators, who worked only for the season. Last year one Deputy Superintendent and 24 apprentices were sanctioned by Government. The establishment, however, continued short-handed, or far under the sanctioned strength, for a considerable part of the season for want of suitable candidates.

Establishment.

Plan of work.

51. Operations were commenced in ten thanas of the Furreedpore district, and the whole establishment continued to work there till the beginning of January, when the Superintendent received instructions to send a detachment of three head and twenty-four ordinary vaccinators to Dacca. The object of this proceeding was to keep up the protection of that district. The detachment vaccinated 16,356 persons in Dacca, and the main establishment 80,437 cases in Furreedpore, where operations were latterly confined to five thanas only instead of ten, as had been done in the beginning of the season. The following extract shows the amount of protection conferred in the Furreedpore district:—“Thanas Sadipore and Boshna have been satisfactorily protected; thanas Furreedpore and Ampore very fairly so; thanas Pangsha and Belgatchia have had about, the former, one-third, and the latter one-fourth, of the population protected. Thanas Palong, Deorah, and Madaripore, have just been touched. In Goalundo, which had previously been protected, 600 persons more were vaccinated during the season under report.” The operations in the Dacca district were spread amongst its various thanas. The total number of operations was 96,840, against 110,950 in the preceding year—a falling off of 14,110, which the Superintendent accounted for by four causes, viz. (1) operations being undertaken in a new district like Furreedpore; (2) by the desertion of some of the vaccinators; (3) by the loss of time in sending a detachment to Dacca in the middle of the season; and (4) lastly, by sickness. The death of the late Superintendent, who was indefatigable in the discharge of his work, and the arrival of a new Superintendent, who must have taken some time to get into the proper way of working, coupled with some of the preceding causes, would sufficiently account for the decrease of work and the consequent slight increase of average cost of each successful case.

52. Mr. Lyons travelled a good deal, and carefully supervised the work in the Furreedpore district. He visited 245 villages, and inspected upwards of 13,000 cases. His inspection verified a success of 99·64 per cent. The operations in the Dacca district were supervised by the Deputy Superintendent. Mr. Lyons complains that he experienced many inconveniences and difficulties in the course of his inspection. As he received no travelling allowance, he had to walk from village to village. I would suggest that he should receive something in the shape of travelling allowance, viz. Rs. 50 a month, which will enable him to keep a pair of riding ponies like the Civil Surgeons of Midnapore and Bankoora, who are allowed Rs. 50 for six months annually for inspecting vaccine operations in their respective districts.

Supervision by the Superintendent.

53. Regarding the attitude of the people, Mr. Lyons says the masses receive vaccination without much persuasion. The Hindoos are more amenable to argument than Mussulmans, who, as a rule, give considerable trouble.

Attitude of the people.

54. A census was taken in the Dacca district. 306,337 persons, belonging to 1,506 villages, were examined with the following result:—67·72 per cent were inoculated, 5·97 per cent were vaccinated, 2·09 had had small-pox, and only 5·37 were found unprotected. This is very satisfactory if the figures are correct and reliable.

Census in the Dacca district.

55. The conduct of the establishment is reported on unfavourably by the Superintendent; but why so many men should desert shortly after he had taken charge I cannot understand. The late Baboo Bhobun Mohun Mitter managed his duties remarkably well, as could be seen from the previous reports. Mr. Lyons is perfectly right in exercising discipline, but at the same time he should use greater tact and skill in making his subordinates work more smoothly under him. He deserves credit for the energy and zeal he showed in the discharge of his duties; and after full examination of the complaints of the establishment, I am satisfied of their having exaggerated in the statements they made of Mr. Lyons' treatment of them; but he nevertheless has been recommended to refrain from ironical bitterness of speech, and to utter his censure, when such is necessary, with due deliberation, and under proper control of temper.

Conduct of establishment.

56. *Orissa Circle*.—This circle was sanctioned in the month of December 1875, *i.e.* about the middle of the vaccine season. The establishment sanctioned for it was one Superintendent, five head-vaccinators and thirty vaccinators. Assistant Surgeon Tariney Churn Dutt was appointed Superintendent. He tried to get trained vaccinators to organize the circle; only one head and ten vaccinators could be found ready to go to Orissa. Nine apprentices were also entertained with a view of being trained up as future vaccinators. The Superintendent lost much time in making preliminary arrangements, such as appointing vaccinators, and indenting for maps, books, forms, lancets, and medicines. The Superintendent and his men arrived in Cuttack in January 1876, and afterwards he did not exert himself as he ought to have done: in fact, displayed such a want of energy and restiveness under control by the Civil Surgeon that his removal was called for, and happily has been effected.

ORISSA CIRCLE

57. The district of Cuttack was selected for commencing operations. After two unsuccessful attempts, vaccine virus was at last established in Cuttack, from lymph tubes received from Calcutta, and from this supplies were sent to the mofussil. The northern part of the sudder thana was taken up, and ten vaccinators under one head man began work. As might be expected, the people at first offered great resistance; and though a few children were vaccinated, their parents would not allow any lymph to be taken from their arms. Virus was thus lost and had again to be brought from Cuttack. A system of small rewards or *backwash* (which always works wonders,) to the parents afterwards enabled the Superintendent to get virus regularly for propagating the vaccine disease from arm-to-arm. As the work progressed, the vaccinators and apprentices were subdivided into parties of two or three men, and separate villages were assigned to each party. Operations were done in parts of Sudder thana, Dhurmsala, and Salipore; 86 villages were touched and 1,273 persons vaccinated, with 94·55 per cent of success. The average number performed by each vaccinator was 136, and the cost of each successful case Re 1-5-10. The Superintendent inspected 918 cases. The civil authorities afforded every assistance.

Mode of commencing operations.

58. Only one report of the outbreak of small-pox in the subdivisional town of Kendraparah was received by the Superintendent. Three vaccinators were promptly sent armed with tubes of lymph; they succeeded in arresting the disease by the end of March. In Kendraparah 46 cases occurred with 18 deaths; and in Patamundy only one case, which proved fatal. Sporadic cases were also met with in other thanas.

Report of the outbreak of cholera.

59. The Superintendent states that he travelled over 455 miles and visited 60 villages. The Civil Surgeon of Cuttack, Dr. Stewart, reports unfavourably of Baboo Tariney Churn Dutt, who, according to him, did not show any personal interest and zeal in his work, as otherwise he might have achieved better results. Dr. Stewart does not approve of the importation of Bengali vaccinators into Orissa to the exclusion of the indigenous race—a view in which I entirely coincide; but at first it is necessary to employ a certain number of trained vaccinators to teach the Oorials. Baboo Tariney Churn Dutt was a novice in the Vaccine Department, and every consideration would have been freely extended to him had his

Inspection

errors been fairly attributable to inexperience only. He may hereafter be more successful in a different sphere of duty.

BEHAR CIRCLE

60. *Behar Circle*.—This circle, like the preceding, was sanctioned in the month of December. The sanctioned establishment was just the same, viz. one Superintendent, five head vaccinators, and thirty vaccinators. Assistant Surgeon Kally Das Bose, who had been Superintendent of Vaccination in Calcutta under Dr. Charles, was appointed to the new circle in Behar. He has submitted a detailed and interesting report. He experienced some difficulty in procuring trained vaccinators. He got only nine trained men to go from Calcutta to Patna, where he arrived on the 24th December, and at once established virus from some tubes which he brought with him. Unfortunately these vesicles were scratched and ruptured, and he had to send two boys down to Calcutta to be vaccinated, and thus got fresh lymph for use, but losing, though quite unavoidably, some valuable time. The Superintendent saw the civil authorities and requested their aid. He also had a Hindi notification printed for circulation among the zemindars and influential persons, informing them of the benefits of vaccination. Besides the nine vaccinators from Calcutta, he got five men from other circles, and entertained some local men. The establishment consisted of three head vaccinators, sixteen vaccinators of different grades, and five apprentices.

Sudder sub-division.

61. The Sudder subdivision, consisting of nine thanas, and the subdivision of Dinapore comprising the cantonment and thana, were chosen as the field of operation. The vaccinators were divided into gangs of six men under one head vaccinator, and systematic vaccination of one village after another was adopted and carried out. The people offered great resistance; the Hindoos more so than Mussulmans, who are said by the Superintendent to be more docile there than in Calcutta. All sorts of idle and absurd rumours against vaccination were got up and circulated. The civil authorities rendered every assistance in their power. The Cantonment Magistrate of Dinapore, Colonel Emerson, gave material assistance in furthering the work of vaccination.

The total number vaccinated was 4,328, with a success of 87.45 per cent. in primary cases and 27.77 in re-vaccination.

Cost of each successful case.

The average number done by each man was 270, and the cost of each successful case was Re 0-6-3. The low rate of success is explained (1) by the inexperience of several vaccinators, and (2) and chiefly by the prejudices of the people, who would not allow lymph to be taken from the arms of the vaccinated children. He was obliged to use crusts in many cases. The Superintendent inspected 3,677 and verified 92.15 per cent. of success.

Sporadic cases of small-pox

62. Some sporadic cases of small-pox were reported, as well as measles and chicken-pox, which prevailed a great deal more than true *variola*. Inoculation is practised among the people. The inoculators came from Tirhoot in large numbers, and spread themselves over the different districts. The Superintendent employed four of them as apprentices, and four as Government apprentices. To 19 inoculators he granted certificates to practise vaccination on their own account. Five of them showed their work to him, the rest never made their appearance, and the Superintendent fears they might have practised inoculation clandestinely. They should be searched out and compelled to give up their certificates, which they have not improbably abused.

Municipal vaccination

63. Municipal vaccinations were done in Patna and Bankipore under the immediate supervision of the Superintendent, while at Behar and Barrh the assistant surgeons in charge of the dispensaries supervised the operations. The work in Behar was inspected and found to be very unsatisfactory: at Barrh it was better.

64. Baboo Kally Dasa Bose is reported on very favourably by Dr. Simpson, the Civil Surgeon of Patna. He applied himself to his duties with zeal and intelligence; and though the amount of his work has not been great, it was not through any lack of energy and industry on his part, but on account of the operations being carried on in a new field, and among a prejudiced and ignorant people.

DISPENSARY VACCINATION

65. *Dispensary Vaccination*.—Under this head are included the vaccinations performed by vaccinators attached to dispensaries and municipalities, and also by all ex-inoculators and private practitioners who submitted returns of their work. The details of the work are fully given in table No. V.; and the abstracts of the reports submitted by Civil Surgeons, which have been compiled with great care, give a clear and complete view of what has been done in each district. I shall here briefly draw attention to the state of vaccination in each district, following the order in which they have been arranged in the table and abstract.

Burdwan division.

66. Commencing with the Burdwan division, three of the districts comprised in it—*Burdwan*, *Hoghly*, and *Howrah*—are included in the area of the Metropolitan circles, and are maintained in a high state of protection. In addition several municipalities entertained vaccinators who did good work under the supervision of Civil Surgeons and their assistants. The other three districts—*Bankoora*, *Mudnapore*, and *Beerbhoom*—are not included in any vaccine circle. In Bankoora a system of self-supporting vaccination has been organized, and a large number of ex-inoculators were employed under thorough and complete supervision. The amount of work done exceeded that of the previous year, and the experiment may so far be considered a success. But, as pointed

Bankoora

out by Dr. Gupta in a separate communication on the subject, the success of the scheme depends on competent supervision, and on the invariable adoption of arm-to-arm vaccination, instead of the use of crusts, which always prove unsatisfactory in the hands of the careless ex-inoculators, though I think this adjective should never be justly applicable where a certificate of fitness has been given. It should only be granted where men have established their character for thorough efficiency. No report has been received from *Midnapore*, though I have repeatedly called for it. In *Beerbhoom* vaccination was confined to the civil station of Sooree and its vicinity. Vaccinators were also sent to stamp out small-pox in the interior of the district. Of the districts included in the Presidency division, the whole of the 24-*Pergunnahs*, *Nuddea*, and *Jessore*, are systematically vaccinated by the Metropolitan circles. Several townships and municipalities employed vaccinators. This is a commendable practice, inasmuch as it forms a nucleus of self-supporting vaccination. The vaccinators in such cases are well trained men provided by the Superintendent of the Metropolitan circles. *Moorshedabad*, which has been transferred to the Presidency division, is not included in any vaccine circle. Vaccination was performed in the cities of *Berhampore* and *Moorshedabad*, and also in some of the branch dispensaries. Dr. Shiroore again urges the necessity of transferring the district to one of the vaccine circles, and the Magistrate supports the proposal.

Beerbhoom.

Presidency
divisionMunicipal
vaccination

Moorshedabad.

All the districts in the Rajshahye division (*Pubna* excepted) are included in the Darjeeling circle of vaccination. In addition to the circle work, all the districts exhibit some improvement. In *Rungpore* Dr. K. D. Ghose had some additional vaccinators entertained by zemindars, and thereby got a good deal of work done. The vaccinator in *Malda* performed very few vaccinations (107), considering he was employed for four months. *Pubna* is, as usual, very backward. In *Bogra* the numbers fell short very considerably of the previous year. The Orissa division has this season been formed into a vaccine circle with *Cuttack* as head-quarters; but as operations were commenced in the month of January only, and as the Superintendent was a novice in vaccine work, very little work was accomplished. Vaccinators were also attached to the dispensaries and municipalities of *Cuttack*, *Pooree*, and *Balasore*, and they did good work under the supervision of the Civil Surgeons.

Rajshahye division.

Rungpore

Bogra.

Orissa division.

The Eastern districts, composing the Dacca division, are all included in the Eastern Bengal vaccine circle. The amount of work done by the circle staff was confined to two districts—*Dacca* and *Furreedpore*. The municipal vaccinator employed in *Dacca* and *Backergunge* performed a larger number of vaccinations than in the previous year, while in *Furreedpore* and *Mymensingh* the numbers fell off. Vaccination is very backward in the Chittagong division. One hillman was found willing to be instructed in the art in the Hill Tracts. More work was accomplished in *Noakholly* and *Tipperah* than in 1874.

Eastern districts.

The Patna division has been formed into a vaccine circle, with its head-quarters at Patna. A good beginning has been made, and a stimulus given to vaccination in Behar. In addition to the work of the circle, vaccinators were employed by the municipalities of *Patna* and *Dinapore*, who performed a good number of vaccinations. The work at sub-division Behar was unsatisfactory: it was better at *Barrh*. In *Gya* and *Shahabad* some work was done by municipal vaccinators, and by several converted ex-inoculators. The municipal vaccinators of *Mosufferpore* did very good work under the Civil Surgeon. Vaccination was also carried on in *Durbhunga* and *Sarun*, and in their respective subdivisions. In *Chumparun* a large number of ex-inoculators were engaged in vaccination. In the *Bhagulpore* division (*Purneah* excepted) vaccination on the self-supporting system has gained a firm footing. The inoculators of *Monghyr*, *Bhagulpore*, and *Sonthal Pergunnahs*, have given up their old calling and adopted vaccination in its stead. A large amount of work was done in the districts of *Monghyr* and *Bhagulpore*. An inspector of licensed vaccinators was appointed in each district to supervise the operations. *Purneah* is included in the Darjeeling circle of vaccination. The municipal vaccinators did more work than in 1874. The districts of *Darjeeling* and *Jalpigoree*, in the Cooch Behar division, are both included in the Darjeeling circle of vaccination. In *Chota Nagpore* self-supporting vaccination has been established on a firm basis in the districts of *Manbhoom* and *Singbhoom*, and much credit is due to Messrs. Wilson and Manook. In *Manbhoom* a large amount of good work was done under Mr. Wilson, the Civil Surgeon, who inspected a very large number, and has evinced a most active interest in the work of vaccination. The work in *Singbhoom* fell off last year owing to several causes, which, as stated, are forcible.

Patna division.

Work done by
municipal
vaccinators.Bhagulpore
division.Cooch Behar
division
Chota Nagpore

67. Small-pox was present in many parts of the province during the past year, but, unlike 1874, it assumed epidemic dimensions in only a few localities. In *Calcutta* the disease prevailed, but not epidemically, yet causing some mortality. There were sporadic cases of small-pox in the districts surrounding *Calcutta*, though they are kept well vaccinated by the Metropolitan circles. In *Bankoora* and *Beerbhoom* the amount of disease was trifling compared with previous years. Orissa shows some mortality from it. In the Darjeeling circles the diminution of small-pox is very noticeable. In Eastern Bengal some districts were almost free from the disease, but in others it prevailed largely. The disease was very prevalent in the *Patna*, *Bhagulpore*, and *Chota Nagpore* divisions, and caused many hundred

Prevalence of
small-pox.Districts round
Calcutta.Patna, Bhagulpore
and Chota
Nagpore

Diminution of small-pox deaths; but even in those districts there would still be a favourable comparison with the amount of disease and mortality which happened in 1874. On the whole the past year shows a great diminution of small-pox.

Inoculation still practised in many districts 68. Inoculation is still practised in many districts, as reported by Civil Surgeons and their subordinates; but whether it is attended with any large mortality, is a point which it is most difficult to ascertain. That the practice is pernicious there cannot be any doubt, since it gives rise to small-pox, which always endangers the safety of a community. It ought, therefore, to be prohibited where a sufficient provision has been made for vaccination; and this is being steadily carried out. The Act IV (B.C.) of 1865, prohibiting the practice of inoculation, is gradually being extended to all towns and districts where a sufficient vaccinating agency exists. The happiest results must follow. The Act in question is in operation in Calcutta, the Metropolitan circles, Chota Nagpore, Sonthal Pergunnahs, Bogra, and Dacca districts, and to almost all sudder stations. The provisions of the Act will probably be soon extended to Orissa, Behar, and Eastern Bengal, whenever in fact the staff of the several vaccine circles shall be able to complete their protection to the point which alone justifies its enforcement.

Vaccine census 69. A vaccine census was collected by the vaccine circles, and also by the Civil Surgeons and medical subordinates, and these have been compiled into table No. VI in the appendix. The figures for jail convicts are perfectly reliable, and show that between 60 or 75 per cent. of convicts are inoculated. As prisoners are never inoculated in jails, the ratio of the inoculated may fairly be taken to represent the degree of protection which exists in the community by the practice of inoculation. In the same way the figures for schools may be taken as a very fair standard of the amount of protection conferred on the juvenile population by means of vaccination. The ratio for different districts and parts of Bengal varies from 8 in Behar and Orissa, where vaccination is still very backward, to 82 per cent. in places where vaccination has become the established custom. But as all the returns have not been very carefully supervised, and as they belong to different districts, no general conclusion can safely be drawn from them.

General conclusion 70. "In conclusion, I have to observe that though the number of vaccinations during the year has not undergone any great increase as compared with 1874, still much has been done to extend vaccination. His Honor the Lieutenant-Governor has taken a deep interest in this very important department of preventive medicine. Two new circles were opened during the year, and provision was made for placing the self-supporting system of vaccination by converted inoculators on a better basis, by the appointment of inspectors to some of the districts. When all the vaccine circles shall work without any hitch or friction, and when all converted inoculators shall carry on vaccination on a correct system and under competent supervision, the province of Bengal will become as completely protected from small-pox as vaccination can render it. This is the end which is being steadily kept in view; and with the Government thoroughly interested, and the vaccine establishment fully alive to the call for continued exertion to accomplish this most desirable consummation, I sincerely trust the day may not now be very far distant when it may justly be regarded as *un fait accompli*.

I have the honor to be,

SIR,

Your most obedient servant,

J. FULLARTON BEATSON, M.D.,

Surgeon-General, Indian Medical Department.

ABSTRACT OF REPORTS BY CIVIL SURGEONS.

WESTERN DISTRICTS.—BURDWAN DIVISION.

<i>Burdwan District.</i> —The whole of this district is included in the Metropolitan circles of vaccination. The municipality of Burdwan entertained a vaccinator from October to March at Rs. 12 per month. 860 persons were vaccinated, of whom 843 were successful. The Civil Surgeon and his assistant inspected the work and found it satisfactory. The people sought after vaccination. There was no inoculation, and the district was almost free from small-pox.	Burdwan municipality. No inoculation
<i>Cutwa Subdivision.</i> —There was no vaccinator attached to the dispensary. Assistant Surgeon Chunder Nath Biswas himself vaccinated six persons successfully out of fifteen. The municipalities of Cutwa and Dainhat employed one vaccinator, who worked for three months and vaccinated 460 persons, of whom 455 were successful. Inoculation was not practised, and though there were a few sporadic cases of small-pox, the disease did not prevail epidemically.	Cutwa. Number vaccinated.
<i>Chuckdighee.</i> —No vaccinator was attached to the dispensary: only nine persons were vaccinated—seven successfully. The people appreciate vaccination, and the practice of inoculation was not resorted to. Only one case of small-pox was reported	Chuckdighee
<i>Jehanabad Subdivision.</i> —There being no vaccinator attached to the dispensary, the Assistant Surgeon and the compounder vaccinated 41 persons successfully. A few cases of small-pox occurred, though there was no inoculation.	Jehanabad. No inoculation.
<i>Raneegunge.</i> —There was no vaccinator attached to the dispensary. The Assistant Surgeon and native doctor vaccinated 49 cases—36 successfully. The former induced three ex-inoculators to practise vaccination; one of them vaccinated 1,388 cases successfully, but as the man worked without supervision the Assistant Surgeon doubts the return. No small-pox was reported from the subdivision, and inoculation was not practised.	Raneegunge. Number vaccinated.
<i>Beerbhoom District.</i> —The Civil Medical Officer reports that one vaccinator one Rs. 10 throughout the year, and two on Rs. 4 each from 8th January to 31st March, were employed to vaccinate in Sooree, Kuddea, and the neighbouring villages. Two other certified vaccinators worked without any pay. Excluding the work of the unpaid men, 3,489 cases were vaccinated, of which 3,320, or 95 per cent., were successful. The head vaccinator worked in the sudder station, and the services of the others were utilized in stamping out small-pox. Mr FitzGibbon finds the plan of offering vaccination to the people when small-pox threatens a good one. The work in the sudder station and its vicinity was thoroughly inspected; that done in the mofussil necessarily less so, though measures were adopted to get correct returns. No attempt was made to select any area for operation. Small-pox was very prevalent. Inoculation was freely practised, which the people prefer to vaccination. Mr. FitzGibbon does not advocate the prohibition of inoculation by law.	Beerbhoom. Small-pox prevalent.
<i>Hetampore Dispensary.</i> —No vaccinator was attached. Vaccination was performed by the native doctor and the compounder, who operated on 46 cases—35 successfully. The people are not favourably disposed to vaccination. Inoculation was freely practised. No small-pox was reported throughout the year.	Hetampore. Inoculation freely practised.
<i>Bankoora District.</i> —Assistant Surgeon Grish Chunder Bhur, in temporary medical charge, submits a brief and meagre report. Vaccination was carried on by 74 out of 120 trained ex-inoculators, and their work was supervised by an establishment of four head vaccinators and two inspectors at a monthly cost of Rs. 114. Five thanas, viz. Bishenpore, Onda, Gungajalbatti, Chutna, and Bankoora, were assigned for protection. The ex-inoculators vaccinated 37,435, against 28,900 in 1874-75—an increase of 8,735 cases. Of this number, 36,019, or 96 21, were said to be successful—a statement which I do not consider as entitled to complete credence. As the Assistant Surgeon was placed in charge late in the season, he appends a table showing the result of inspection made by his predecessor, Mr. Conolly, who inspected only 1,809 cases. The two inspectors saw 25,509 cases. Arm-to-arm vaccination was invariably practised; and the concentrated system was also more or less followed. Small-pox was not very prevalent, though a few isolated cases occurred. A rather serious outbreak occurred in the eastern portion of the district, attacking 21 persons, of whom 12 died. Vaccination was performed round the infected locality, and the disease arrested	Bankoora. Ex-inoculators. Serious outbreak.
<i>Mudnapore District.</i> —No report received, though repeatedly called for.	No report.
<i>Hooghly District.</i> —The vaccination of this district is entrusted to the Metropolitan circles. One vaccinator and two extra men on Rs. 10 each were attached to the municipality. They vaccinated 3,563 cases, 2,525 successfully. Strict supervision was exercised, and most of	Hooghly municipality

Vaccination sought by the people.	the cases were inspected by Mr. Thompson and his Assistant Surgeon. Vaccination is sought by the people, and inoculation is obsolete. Small-pox broke out epidemically, and two dispensaries—one at Ishworbag, and another at British Chandernagore—were open, where 197 cases were treated with 25 deaths. A batch of vaccinators from the Metropolitan staff under a Deputy Superintendent vaccinated 2,800 cases in and around the infected places, and thereby checked the disease.
Recommendation.	Mr. Thompson recommends the employment of another permanent vaccinator.
Serampore.	<i>Serampore Subdivision.</i> —Dr. Greene reports that one vaccinator on Rs. 10 a month was employed by the municipality. From October to 15th April 948 cases were vaccinated—926 successfully—within municipal limits. The work was inspected twice a month.
Inoculation.	Educated and influential residents are in favour of vaccination. Inoculation was not heard of.
Howrah.	<i>Howrah District.</i> —The municipality of Howrah employed two vaccinators on Rs. 10 each throughout the year. They vaccinated 2,387 cases—2,111 successfully—within municipal limits. The people prefer vaccination to inoculation, which has become almost extinct. Small-pox prevailed sporadically, and caused 98 deaths in the district.

CENTRAL DISTRICTS.—PRESIDENCY DIVISION.

Vaccinators supplied to municipalities.	<i>24-Pergunnahs District.</i> —Vaccination of this district formed part of the work of the Metropolitan circles, in which it is included. Special arrangements were however made, and vaccinators were supplied by Dr. Gupta to the several municipalities situated in this district. The work done is shown in table V. The people are said to be favourably disposed to vaccination, and no inoculation was practised. Two inoculators received training in the Metropolitan circles, and were granted certificates to practise on their own account. The native doctor of Busseerhat instructed three ex-inoculators, who received a subsistence allowance of Rs. 4 each during probation. 23 outbreaks of small-pox occurred, afflicting 29 villages in fifteen different thanas, and these were all stamped out by the Metropolitan vaccine establishment.
Instruction of ex-inoculators.	
Municipalities employing vaccinators.	<i>Nuddea District.</i> —This district is comprised in the Metropolitan circles. Special arrangements were also made, and the several municipalities obtained vaccinators from Dr. Gupta, keeping them at work for periods varying from two to six months. Table V shows the work which Dr. Bensley reports to be satisfactory. The people are beginning to appreciate vaccination, and inoculation is prohibited. The district was nearly free from small-pox, and Dr. Bensley remarks that “the protection from small-pox enjoyed by the people of this district is very great.”
Agency employed.	<i>Jessore District.</i> —Vaccine operations were conducted by the staff of the Metropolitan circles. Surgeon Gregg reports on vaccinations done in dispensaries and municipalities. Four dispensaries, viz. Khoolna, Bagirhat, Sreedharpore, and Dowlutpore, had each a vaccinator attached to it for short periods, and four vaccinators worked within the municipal boundaries of Jessore. The work is shown in table V, and it was supervised by the Assistant Surgeon at Jessore, and by the native doctors at the outlying dispensaries. Vaccination is not willingly received. The people are said to prefer inoculation, which has now been rendered penal by law. No prevalence of small-pox was reported.
No small-pox.	
Agency employed.	<i>Moorshedabad District.</i> —An elaborate report is submitted by Dr. Shircore, who states that fourteen vaccinators—four paid by Government and ten from municipal and other sources—were employed during the season. The four Government and four municipal vaccinators were attached to the dispensaries at Berhampore and Moorshedabad—three were sent to the dispensaries at Kandi, Jungipore, and Azingunge, while one man was entertained and paid by Rai Jogendro Narain Roy Bahadoor, zemindar, for his dispensary at Lallgolah. Excepting the Moorshedabad, Jungipore, and Lallgolah vaccinators, all the men received Rs. 10 each per month. At Moorshedabad four vaccinators at Rs. 5, instead of two at Rs. 10 a month, were employed; but Dr. Shircore thinks this an unwise plan. The municipal vaccinators worked within municipal limits, and the Government vaccinators operated in villages around Berhampore. The work was supervised by the Civil Surgeon, and by the Assistant Surgeons in charge of the several dispensaries to which the vaccinators were attached. Assistant Surgeons Okhoy Coomar Dey and Omirto Lall Mozoomdar are reported as having been especially attentive to the vaccine operations, and the Civil Surgeon vouches for the correctness of their returns. The total number vaccinated was 4,206, against 5,453 in the preceding year, and the decrease is chiefly attributed to the failure of lymph received from Calcutta, by reason of which two months were unfortunately lost, but also to the apathy of the people, who only seek vaccination when threatened by small-pox. Dr. Shircore urges the desirability of transferring the district to one of the vaccine circles. Inoculation was practised in some remote parts of the district. Dr. Shircore tried in former years to train ex-inoculators as independent vaccinators, but found when left to themselves they reverted to their old trade of inoculation. He will, however, give them another trial.
Inspection.	
Inoculation.	

RAJSHAHYE DIVISION.

All the districts of this division (Pubna excepted) are included in the Darjeeling circle of vaccination, and the following account shows what has been done by dispensary and municipal committees:—

Dispensary
vaccination.

Dinagopore District.—No vaccinators were attached to any of the dispensaries or municipalities. Dr. Weber, Civil Medical Officer, himself vaccinated 184 cases successfully. Small-pox prevailed more or less, but the disease was stamped out by the staff of the vaccine circle.

No municipal or
dispensary
vaccinators.

Maldah District.—One vaccinator on Rs. 10 a month, paid by the municipality, was attached to the dispensary for four months. The native doctors of the jail, Sudder, and Chanchal dispensaries, also carried on vaccination. The work appears in table V. Mr Minos had not sufficient opportunity of supervising the operations, but he had reasons for believing the correctness of the figures. The people are said not to appreciate vaccination. Small-pox hung round the district throughout the year, and caused 91 deaths. The Civil Surgeon advocates compulsory vaccination.

Municipality.

Small-pox.

Rajshahye District.—Dr. Bensley reports that two vaccinators were employed by the Rampore Beaulah and Nattore municipalities, who worked chiefly within municipal limits. They were also engaged in stamping out outbreaks of small-pox. The native doctors and compounders attached to the Lalpore, Kuruchamora, Tahirpore, and Kossimpore dispensaries were also engaged in performing some operations. Table V shows the whole amount of work done. The work of the two municipal vaccinators was supervised by the medical subordinates attached to the dispensaries at those places, and also by the Civil Surgeon. There was no prevalence of small-pox, and inoculation was not practised. The people, though apathetic, are not prejudiced against vaccination.

Municipality.

Inspection.

Rungpore District.—Dr. K. P. Ghose reports that vaccination was carried on by an agency of three independent and four paid vaccinators. Of the former, two were attached to the Sudder and one to the Mahoeungge dispensary; and of the latter one was allotted to each of the four dispensaries at Batashur, Alipore, Saptana, and Kakina. In the town the work was done within the municipality, and in the mofussil it was confined in the neighbourhood of the dispensaries, so that the operations might be inspected. Dr. Ghose and his assistant native doctor inspected the work, and found the results good. The definite plan of carrying on vaccination from one place to another was pursued. The people willingly take vaccination, and even pay a small fee. Inoculation was resorted to in some parts of the district, but the practice is said to be dying out, and the inoculators betaking themselves to agriculture and other pursuits. Dr. Ghose knows of places which have not for upwards of thirty years been visited by inoculators, who labour under the impression that their practice has been rendered penal by law. An inoculator's son was taken as a vaccinator. Besides this, Dr. Ghose made other attempts in the same direction. Three inoculators joined the dispensary for instruction, but before they could be considered capable they became impatient for certificates, which was refused. They began practising spurious vaccination on their own account. Dr. Ghose points out this danger of training inoculators as vaccinators, but under sufficient surveillance the risk he apprehends should not make abandonment of the attempt to win them over necessary or even expedient. Only 27 cases of small-pox were reported to the police, but the accuracy of the report is doubted, as people conceal the disease. The Magistrate of the district did much for vaccination by inducing the dispensary committees to entertain vaccinators. All, except the zemindars of Kakina, carried out the Magistrate's suggestion.

Agency.

Inoculation.

Danger of training
inoculators.

Bogra District.—Mr. Sandiford reports that two vaccinators on Rs. 7 and Rs. 10 respectively were entertained by the municipality. The work (vide Table V) was carried on from November to March, and confined within the town and suburbs of Bogra and Sherepore. Mr. Sandiford and the native doctor at Shorepore supervised the operations. The town and suburbs are well protected. The people are prejudiced to some extent against vaccination, but they take it after a little persuasion. No inoculation was heard of; but neither did any inoculator come for instruction. Small-pox broke out, but of 44 persons attacked only two died.

Municipality.

Small-pox.

Pubna District.—Dr. Price reports that no vaccinator was attached to the dispensary: the compounder vaccinated a few cases. Lymph supplied by the Superintendent-General signally failed, and vaccination was started from English lymph. All the cases were inspected by the Civil Surgeon, who himself operated on a few children. Inoculation is rife, but there was no epidemic of small-pox.

Pubna

Inoculation rife.

At Doolye, the Assistant Surgeon in charge of the dispensary successfully vaccinated two cases.

Serajgunge Subdivision.—Assistant Surgeon Bholanath Pal reports that the municipality entertained one vaccinator on Rs. 10 from November to February, and that his salary for March was paid by the people among whom he worked. Here, indeed, is a healthy sign of the

Growing
appreciation of
vaccination by the
people.

growing appreciation by the people themselves of the advantages derivable from vaccination. For the first two months he worked within the town, and latterly beyond its limits. Of his work, that done in the town was inspected by the Assistant Surgeon and found to be satisfactory. The people prefer vaccination to inoculation, which is however practised in the interior. No inoculator was trained, but this obstinacy must surrender, or end in inoculators being driven by public opinion from the field to which they so tenaciously cling. Small-pox broke out in several villages, but was stamped out by the vaccinator.

Small-pox.

" ORISSA DIVISION.

Cuttack.

Cuttack District.—The districts comprised in this division are now included in the Orissa vaccine circle, which has been recently formed. Dr. Stewart, Civil Surgeon of Cuttack, reports that three vaccinators were employed by the municipality, who worked within the town and in the suburbs of Cuttack. The assistant surgeons and hospital assistants of the several dispensaries also performed some operations. Owing to the extraordinary failure of Calcutta lymph, the work was commenced late in the season. But notwithstanding this there has been an increase of work. At Ungool, where the tehsildar interested himself in vaccination, a vaccinator was attached to the dispensary and paid out of the revenue of the Tributary Mehals. The details of the work appear in table V. Dr. Stewart himself accompanied the vaccinators to populous neighbourhoods, and succeeded in subduing prejudices and oppositions. A small present of four annas made the Ooriah parents quite willing to allow of virus being taken from the arms of their children—a practice against which they would otherwise be strongly prejudiced. A portion of the work was inspected by the Civil Surgeon and found to be good. Dr. Stewart's excellent judgment and energy are invaluable in any work requiring tact and perseverance.

Ungool.

Inspection.

Pooree.

Pooree District.—Dr. Hill submits a detailed and interesting report. Two vaccinators—one paid by Government and the other from the dispensary funds—were employed. The work was commenced on 3rd November at Nulit Sahi, in Pooree town, and gradually extended to the villages lying mostly to the north of the Pooree. The lymph received from Calcutta was bad, and there were many unfortunate failures in the beginning of the season. Arm-to-arm vaccination was practised.

Lymph.

Inspection

Inoculation

Act IV (B.C.)

Dr. Hill not only supervised and inspected the work, but helped the vaccinators in their operations. The results of the year are satisfactory, and would have been more so had the lymph supply been good from the beginning. There is less opposition among the educated than among the lower classes. The failure of the first lymph created a prejudice in the minds of the people against vaccination. Inoculation is rife, and one inoculator caused some annoyance. No inoculator came for instruction, as their trade still is more profitable. Small-pox prevailed and caused more deaths than on any former occasion; but it is not too much to expect that the results of the institution of vaccination by the staff of the Orissa circle will speedily begin to tell against the practice of inoculation, and justify the application of Act IV (B.C.) of 1865 to portions of the district, and ultimately throughout it.

Balasore District.—Dr. Zorab submits only the annual return, but no report—a sign of lukewarmness, or very unjustifiable indolence. He has been cautioned against a fresh exhibition of either.

EASTERN DISTRICTS.—DACCA DIVISION.

All the districts in this division are included in the Eastern Bengal circle.

Municipality

Dacca District.—Dr. Fullerton, in temporary civil charge, reports that six vaccinators—three paid by Government and three by the municipality—were employed during the year. The work was confined in the city, and the Civil Surgeon and the House Surgeon of the Mitford Hospital inspected it. The people still manifest a strong feeling against vaccination. There was no inoculation in the town. Twenty-four cases of small-pox occurred in the city.

Inspection

Furzedpore District.—Baboo Udoy Chand Dutt, Civil Medical Officer, reports that one vaccinator on Rs. 10 per month was employed throughout the year. He vaccinated in villages in and around the municipality, and operated on 1,521 persons. Dr. B. N. Bose personally inspected the work, and found it satisfactory. The majority of the inhabitants of the town and its vicinity are favourably disposed to vaccination. Inoculation is practised in such parts of the district as have not been brought under Act IV (B.C.) of 1865. Fifty-nine deaths occurred in the district. No inoculator was trained.

People well disposed towards vaccination.

Goalundo Subdivision.—There was no vaccinator employed during the year. An ex-inoculator and the native doctor vaccinated 915 cases. The people are said to be well disposed towards vaccination—a sentiment which should be warmly encouraged and taken advantage of.

Lymph from Calcutta.

Backergunge District.—Dr. Cameron reports that one vaccinator on Rs. 10 per month, paid by Government, was attached to the Burrisaul dispensary for eight months, and worked chiefly within municipal limits. His work was inspected by the Civil Surgeon and his assistant. Dr. Cameron found fault with the lymph supplied from Calcutta, as it generally

failed to produce good vesicles. The people of Burrisaul readily accept vaccination, while those of the district prefer inoculation, which is generally practised. Several unsuccessful attempts were made to train inoculators, who would not consent to be instructed without some remuneration. I consider money spent in overcoming their obstinacy to be ill laid out: self-interest will by-and-by compel them to sue for what they now pretend to reject. Small-pox was very prevalent, and caused 177 deaths, against 53 in the previous year.

Vaccination
readily received at
Burrisaul.

Small-pox.

Mymensingh District.—Dr. Shaw reports that one vaccinator on Rs. 10, paid by Government, was attached to the sudder dispensary throughout the year, and another on Rs. 8 was entertained by the Bazitpore municipality. The former worked in and around the town under the orders and superintendence of the Civil Surgeon, who, however, had few opportunities of verifying the results. The Assistant Surgeon saw and verified a great many cases. The subordinates in charge of the branch and subdivisional dispensaries also carried on vaccination. The work was desultory, and the lymph from Calcutta yielded unsatisfactory results. The people are said to be opposed to vaccination, but yield readily to persuasion. Inoculation is extensively practised in the district, but not in and around the station. The Bazitpore municipal vaccinator is the only converted ex-inoculator trained during the year. Another came for tuition, but he did not stay long. The district enjoyed a remarkable freedom from small-pox, there being only a few deaths from the disease.

Agency.

Lymph.

Freedom from
small-pox.

CHITTAGONG DIVISION.

Chittagong District.—Four vaccinators were employed during the year under report, three paid by Government and one by the Chittagong municipality, at the rate of Rs. 10 each a month. One was attached to the dispensary throughout the year, and three were extra men entertained for the season. The municipal vaccinator worked chiefly in the town, while the extra men went to the interior of the district vaccinating one village after another. Dr. Murray took charge after the expiration of the season, and his predecessor had made no inspection of the work, for reasons which it is needless to detail here, but which were satisfactorily explanatory of the omission. 769 against 1,775 vaccinations were performed. The decrease is attributed to the unusual prevalence of small-pox, and to some extent to the opposition of the people, who are most persistently prejudiced against vaccination. Of the three extra men, two had been inoculators, but who were voluntarily trained and employed as vaccinators. Small-pox caused 60 deaths. The cost of each successful case was four annas and six pie.

Agency.

Municipality.

Vaccinations
performed.

Chittagong Hill Tracts.—The Civil Medical Officer reports that one trained vaccinator on Rs. 20, and a hillman apprentice on Rs. 10, were entertained—the former from 27th November, and the latter from 9th January, and worked till the 1st of April. Should the hillmen adopt the profession of vaccinators, the cost of the operations will show a considerable decline, as imported men have to be bribed with higher pay on account of the comparative banishment. Operations were commenced at Rungamuttee, and afterwards extended to Kassalong and other villages up the Kurnafulee river. The Deputy Commissioner issued perwannahs to the headmen of villages to assist the vaccinators. The work was frequently inspected by the Civil Medical Officer and found to be satisfactory. The apprentice was always present during the operations, and learnt a good deal. Owing to the late commencement of the work, and the establishment of a quarantine prohibiting communication with the hill villages, much work could not be accomplished. The hill people (Chukmas, Tipperahs, and Mughs), though extremely ignorant and superstitious, offered no resistance to vaccination. Inoculation by Bengali and Mugh operators is practised in some localities. There was an outbreak of small-pox in the end of March. The cost of each successful case was four annas and nine pie. The hillman apprentice is said to be not yet competent to work independently, and the employment of a trained vaccinator for another season is urged by the medical officer as necessary for success.

Agency.

Plan of work.

Inoculation.

Noakholly District.—The establishment consisted of one Government vaccinator on Rs. 10 throughout the year, and of three municipal vaccinators paid from Rs. 3 to Rs. 4 for every 100 successful operations—a novel principle, but likely to be practically advantageous, because calculated to call forth the best efforts of the operator, and because a real good progress is obtained with five apprentices who worked on their own account. They worked in villages situated in different thanas; the protection of the municipality being undertaken by the Civil Medical Officer and his subordinates. The aid of the civil authorities and of influential zemindars was solicited to extend vaccination, but no progress could be made till inoculation, which is causing much mischief in the district, is prohibited by law. The work was inspected by the Civil Medical Officer. The people are beginning to appreciate vaccination. Baboo K. C. Chatterjee succeeded in inducing several Moulvies to allow their children and students to be vaccinated. Inoculation was not practised in the station and its vicinity, but it was carried on in every thana in the interior of the district. Thirty deaths from inoculation were reported. Two inoculators were taught vaccination, and granted licenses to practise. They broke their promise and reverted to their old practice—a proceeding which could surely be punishable.

Establishment.

Inspection.

Deaths from
inoculation

under some sections of the Penal Code. Their action gave rise to outbreaks of small-pox. The vaccinators stamped out the disease.

Agency. *Comallah District.*—Mr. Stork reports that two vaccinators on Rs. 10 each—one paid by Government and the other partly by the municipality and partly from the dispensary funds—were entertained throughout the year. The municipal vaccinator worked within municipal limits; the other worked in thana Laksham, 20 miles from the sudder station. The system of vaccinating one village after another was pursued. The work of both the vaccinators was inspected by Mr. Stork, and found satisfactory. Vaccination is gaining ground: there is less opposition now, and the people begin to seek after it. Inoculation is still prevalent in the interior, and all attempts at training inoculators have failed. Mr Stork advocates the extension of Act IV (B.C.) of 1865 into the district—a matter which is never postponed after the circumstances, as shown by a vaccine census, justify the enforcement of Act IV (B.C.) of 1865. There was no epidemic of small-pox. 85 isolated cases were reported.

Inoculation.

Small-pox.

Brahmunberiah Subdivision.—Two vaccinators on Rs. 10 each, paid by Government, were employed for six months. The villages in and around the municipality were selected, and the work was inspected by the native doctor attached to the dispensary. The people appreciate vaccination, but inoculation is still rife. No inoculators come for instruction. A few sporadic cases of small-pox occurred in the subdivision.

Small-pox.

BEHAR.—PATNA DIVISION.

Patna Division.—All the districts of this division are now included in the Behar circle of vaccination, which has been recently formed.

Patna District (Dinapore Cantonment).—One vaccinator on Rs. 10 per month, paid out of the cantonment fund, was employed from November to March. He worked in and about the city and cantonment. Out of 814 cases operated, 190 were verified by the Staff Surgeon and his hospital assistant. Dr. Jameson is satisfied with the work. The people are very obstructive to vaccination, and it is believed inoculation prevails to some extent. No inoculator was trained. Some sporadic cases of small-pox occurred.

People obstructive to vaccination.

Agency. *Patna City and District.*—Vaccination was carried on by the staff of the new Behar circle, and from the report submitted by the Superintendent, and countersigned by the Civil Surgeon, it appears that 4,390 operations were performed, of which 3,466 were successful. Out of this number the Civil Surgeon verified 260 cases.

Field of operation. *Gya District.*—Two Government and three municipal vaccinators on Rs. 10 each were employed. The operations were confined to the town and its neighbourhood, and to the subdivisions and their adjacent villages. The town work was inspected by the Civil Surgeon, and that in the subdivisions by the native doctors attached to the several dispensaries. Out of a total of 1,300 cases operated, the Civil Surgeon inspected 510. The town people are against vaccination, while in the interior of the district there is not much opposition. Inoculation is still rife however. Besides the five vaccinators mentioned above, who were old inoculators, some inoculators from Tirhoot worked, but their work being found unsatisfactory, they were prohibited from further practice. There was no great prevalence of small-pox. The decrease of work is attributed by Dr. Macleod to the frequent failure of lymph, and to the illness of one vaccinator.

Decrease of work attributable to failure of lymph Agency.

Shahabad District.—Dr. Thornton reports that two Government and one municipal vaccinator were generally at work in Arrah, though they sometimes went out into the district to stamp out small-pox. The Civil Surgeon inspected the work and found it satisfactory. The people of Arrah and its vicinity readily accept vaccination. Inoculation is declining. Nine inoculators were certified to practise vaccination in the district, where they worked without supervision—a principle which I consider as being full of risk, and, except under most exceptional circumstances, should not be sanctioned. There was no great prevalence of small-pox, which however caused a few deaths.

Agency. *Sasseeram Subdivision.*—Two municipal vaccinators on Rs. 10 each worked—one in Sas-seeram and another in Chinaree, from December to March. The Assistant Surgeon inspected the work, which was rather loose and scattered about. The people are opposed to vaccination, and inoculation is prevalent. No inoculator could be found for training.

Agency. *Jugdisporc.*—One municipal vaccinator on Rs. 10 a month, and seven converted inoculators, together with the native doctor of the dispensary, worked in and around Jugdisporc. Vaccination is gaining ground, while inoculation is declining. A number of inoculators were trained and granted certificates to practise vaccination. Out of a total of 1,407 cases, 856 were inspected.

Agency. *Bhubboah.*—One municipal vaccinator on Rs. 10 worked from 15th November to 31st March. The hospital assistant inspected the work and found it satisfactory. The people are not in favour of vaccination: inoculation is rife. Seven inoculators were trained and received certificates to practise vaccination, but it is not stated what measures, if any, were adopted to inspect their work. Small-pox prevailed epidemically.

Inoculators trained and received certificates

Buzar.—Dr. Jackson reports that one vaccinator on Rs. 10, paid by the municipality, worked from November to February, and vaccinated 461 persons. The Civil Surgeon saw only two cases. Not much method was observed. Inoculation prevails extensively. There was a great deal of chicken-pox.

Agency.
Chicken-pox.

Doomraon.—One vaccinator on Rs. 10, paid by the municipality, worked for four months in Doomraon and its adjacent villages. Only 124 persons were vaccinated. 86 cases were seen and verified by the Assistant Surgeon. The people are said to be averse to vaccination. Inoculation is prevalent. Ten inoculators were converted in 1872. No small-pox during the year.

Agency
Inoculators.

Dehree.—Mr. [redacted]yth, Civil Medical Officer, reports that no vaccinator was employed. He himself vaccinated fifty cases among the irrigation coolies.

West Tirhoot, or Mozufferpore District.—Dr. Charles Jackson reports that two vaccinators paid by Government and one by the municipality, all at the rate of Rs. 10 per month throughout the year, worked in Mozufferpore. The town was divided into three sections, and assigned to the three vaccinators. 4,446 cases were vaccinated; 3,765, or 80 per cent., successfully, and many of the operations were inspected by the Civil Surgeon and his assistant. Inoculation is prohibited in Mozufferpore. The wealthy people are opposed to vaccination. Inoculation is extensively prevalent: so many as 73 per cent. of the dispensary patients are said to be inoculated. Two inoculators were taught vaccination, and worked well in the suburbs of the town. A few isolated cases of small-pox occurred in April and May.

Agency.
Wealthy people opposed to vaccination.

Setamurhee.—One vaccinator was employed by the local municipality on Rs. 10 for the season only, and he worked in the town and its adjacent villages. 307 children were vaccinated with 96 per cent. of success, and the Assistant Surgeon inspected the cases once every week. The people are said to be prejudiced against vaccination. Inoculation is extensively practised. No inoculator was trained during the year. No epidemic of small-pox.

Inoculation.

Hajeeopore.—One vaccinator on Rs. 10 a month, paid from local funds, worked for the greater part of the year, both in the town and its suburbs, and vaccinated 270 persons—232 successfully. The work was inspected once a week by the hospital assistant.

Inoculation is rife, and inoculators are not willing to be instructed. Only thirteen cases of small-pox were reported, and prompt measures were taken to arrest the disease.

Inoculation

Soorsand.—No vaccinator was attached to the dispensary. The hospital assistant himself vaccinated 23 cases—12 successfully.

Durbhunga District.—Dr. McDonnell submits an interesting report on vaccinations in the district. Two vaccinators—one permanent and another temporary—each on Rs. 10, the former paid by the Court of Wards, and the latter by the municipality, worked chiefly within municipal limits. They vaccinated 1,301 cases, 1,235 successfully, and the work was constantly inspected by the Civil Surgeon and his assistant. The rich and respectable people are averse to vaccination. Inoculation is practised. One inoculator was taught and supplied with lymph, which he used in vaccinating many children. No small-pox was reported.

Agency
Inoculation.

Mudhoobunny.—One vaccinator on Rs. 10, paid partly by the municipality and partly from local funds, worked in and around the subdivision. 1,039 cases, against 2,187 in the previous year, were vaccinated. No other information is supplied by the hospital assistant, who took charge in the month of March, when the vaccine season was nearly over.

Tajpore.—One temporary vaccinator on Rs. 10 was employed during part of the season; he vaccinated 775 cases—446, or 51 per cent., only successfully. The hospital assistant inspected the work, and also assisted in carrying it forward. The people are prejudiced against vaccination. One inoculator was taught.

Inspection

Rosserah.—One vaccinator on Rs. 10, paid by the municipality, worked for six months from November inclusive, and vaccinated 738 persons—678 successfully. The work was regularly supervised by the hospital assistant, who pronounced it good.

Saran District.—Dr. Russel reports that six vaccinators were engaged in vaccination—one paid by Government and two by the Chuppra municipality—at Rs. 10 per month, throughout the year; the other three were entertained for the season only at Rs. 8 each, from November to March. The operations were confined to Chuppra and Revilgunge, and mohullas were assigned to each vaccinator. The Civil Surgeon and his assistant inspected the work almost daily and found it satisfactory. 1,654 persons were vaccinated, against 1,871 in the previous year, of whom 1,468, or 88.7, were successful. The people of the town are fairly reconciled to vaccination, while in the district inoculation is almost exclusively practised. One inoculator was prevailed upon to learn vaccination. No epidemic of small-pox was reported during the year.

Agency
Field of operations
Inoculation in the district

Sevan.—One vaccinator on Rs. 10, paid by the municipality, was employed for one month. He worked in a desultory fashion, and vaccinated 244 persons—236 successfully. The Assistant Surgeon inspected some of the cases, and was satisfied with their quality, as he might well be if the declared percentage is reliable. The people are said to appreciate vaccination. Inoculation is rife. No small-pox was reported from the subdivision.

Inspection

Agency. *Hutwa.*—Eight vaccinators were at work here, three paid at Rs. 10 a month each, and five received a commission of two annas for each successful case, all from the Hutwa Raj treasury, for December to March. Two of the paid men worked in Hutwa, and one was sent to Gopalgunge. The *ticca* men, who were all old inoculators, were ordered to vaccinate among their old clients.

Inoculators taught vaccination. Altogether 1,225 persons were vaccinated, of whom 1,022, or 83 per cent., were successful, and the work was supervised by the Assistant Surgeon of the dispensary. The people appreciate vaccination. The Manager of the Raj rendered great assistance. Inoculation is still prevalent. Five inoculators were taught vaccination and worked well. No outbreak of small-pox during the year.

Inoculation. *Revilgunge.*—Two vaccinators on Rs. 8 each, paid by the local municipality, were employed for four months, and operations were confined to municipal limits. They vaccinated 388 persons—293, or 75 per cent., successfully. The people are opposed to vaccination. Inoculation is extensively practised. No inoculators were instructed. Small-pox prevailed to some extent, but the mortality therefrom was small.

Agency. *Chumparun District.*—Dr. Meadows reports that one paid vaccinator on Rs. 10 and 48 ex-inoculators were engaged in vaccination from November to March. The Government vaccinator worked in and around the station of Moteeharee, while the ex-inoculators were allowed to work within their old beats and jurisdictions. The Civil Surgeon constantly inspected the operations. The total number vaccinated was 3,407, 2,123 being performed by the old inoculators. The people are said to be indifferent to vaccination so long as it is done by their own inoculators. Inoculation is still prevalent in some parts, but inoculators are changing their practice. Small-pox constantly broke out, engendered no doubt by the practice of inoculation. Dr. Meadows advocates the prohibition of inoculation by the introduction of Act IV (B.C.) of 1865.

BHAGULPORE DIVISION.

Agency. *Monghyr District.*—Dr. Nicholson has submitted a long report. The agency consisted of four vaccinators, paid by the municipalities of Monghyr and Jumalpoore; two paid by the Durbhunga Raj, who worked at Khurrukpore; five apprentices, and 124 ex-inoculators, all under one inspector, who supervised the operations. The paid vaccinators worked in Monghyr, Jumalpoore, and Khurrukpore respectively, while the licensed vaccinators or ex-inoculators worked in the interior of the district. The Civil Surgeon inspected 331 cases in Monghyr and 458 in the district. The Assistant Surgeon of Monghyr and the hospital assistant of Khurrukpore saw 89 and 208 respectively. The inspector moved about constantly in Monghyr city and district, and supervised the work of the paid as well as licensed vaccinators. The head vaccinator of Monghyr was also deputed into the interior to look after the ex-inoculators. Altogether 11,654 persons were vaccinated, against 13,523 in 1874, of whom 11,065, or 94 per cent., were successful. The work was more systematic and defined than in former years. The prejudices against vaccination are disappearing, as shown by the large number of inoculators changing their practice. Inoculation is sometimes clandestinely practised by some of the licensed men even. Dr. Nicholson thinks that the mortality from the practice of inoculation is one per cent., but this seems *a priori* improbable. Small-pox occurred sporadically and caused 399 deaths, against 490 in the previous year. Dr. Nicholson advocates the prohibition of inoculation by law, and yet it only kills one per cent. of those subjected to it.

Inoculation practised even by licensed men. *Bhagulpoore District.*—Dr. Warden, Officiating Civil Surgeon, reports that two vaccinators on Rs. 5—one paid by Government and another by the municipality—were employed. These men also received a commission of Rs. 5 for the first hundred successful cases, and Rs. 10 for every subsequent hundred cases. The reverse should be tried. Higher rates to commence with when the difficulties to be surmounted are increased. Another man received only a commission on the cases—the successful ones only in all probability. 202 inoculators received passes or licenses to practise vaccination, against 167 in 1874, being an increase of 35 men. These men reported 3,857 cases. They received neither pay nor commission; the people among whom they worked were expected to remunerate them by small fees. An inspector of vaccination was appointed in the month of February, and sent out to inspect in the district. He got ill, and another was appointed in March. The Civil Surgeon made 44 visits to inspect, and verified 243 cases. The municipal vaccinators performed 805 operations—624 successfully. Vaccinations were also done in the following dispensaries situated in this district by the native doctors:—Banka 76, Colgong 9, Madhuporah 15, Tulshia 16.

Inspection. *Purneah District.*—This district is included in the Darjeeling circle of vaccination. Dr. Picachy reports that one vaccinator on Rs. 10, paid by the municipality, was employed, and he worked in Purneah, and also in some of the indigo factories of the district. He vaccinated 441 persons. Vaccination is not popular among the well-to-do persons. Inoculators have almost given up their old calling and betaken themselves to vaccination. They were supplied with virus, i.e. it was given to those who had been duly taught before, and others were instructed during the year. 12 of them sent in returns of 1,196 operations.

Sonthal Pergunnahs.—This district is included in the Sonthal Pergunnahs vaccine circle

COOCH BEHAR DIVISION.

Darjeeling District.—This district is included in the vaccine circle. Dr. Purves, Civil Surgeon, reports that no vaccinators were attached to the dispensaries; the medical subordinates performed a few operations. Dr. Purves himself vaccinated all the prisoners in the jail, school children, and the European children in the station. Vaccinations were also performed in the branch dispensaries and tea-gardens—Darjeeling 106, Kurseong 312, and Phasidewat 255. Dr. Purves remarks that when small-pox is near about, all prisoners in a jail ought to be vaccinated, whether or not they bear previous marks of vaccination, inoculation, or small-pox. He came to this conclusion from his experience in the Darjeeling jail in 1874.

No vaccinators
att. chd to the
dispensaries.

Tea-gardens.

Julpigoree District.—This district is also included in the Darjeeling circle of vaccination. No vaccinator was attached to the dispensary. Assistant Surgeon Tarucknath Gangooly vaccinated thirty cases successfully, of which the Civil Surgeon verified six. The native doctors of Tetaliah and Boda dispensaries vaccinated 26 and 22 children respectively.

CHOTA NAGPORE DIVISION.

Hazareebagh District.—This district is, with the other districts of this division, included in the Ranchee circle of vaccination. Dr. Birch, the Civil Surgeon, reports that one vaccinator on Rs. 8, paid by the municipality, was employed from October to March. He vaccinated systematically one *mohullah* after another, and successfully protected 528 persons out of 586. All the work was verified either by the Civil Surgeon or the hospital assistant. Inoculation is prevalent in the district, but no data available regarding its mortality. Several inoculators were examined by Dr. Birch as to their knowledge of vaccination; and when this was found to be satisfactory, *perwannas* were granted to them by the Magistrate to work in a certain definite area, on condition that they must give returns of their work to the Superintendent of Vaccination. The police reported 44 deaths from small-pox. In the branch dispensaries at Chutra and Burhee 141 and 32 vaccinations respectively were performed by the hospital assistants

Inoculation.

Perwannas granted
to inoculators.

Lohardugga District.—One vaccinator on Rs. 10, paid by the municipality, was employed from November to March, while during the recess he received Rs. 6 per month. He worked in and around Ranchee, and brought most of the cases to the dispensary for the inspection of the Civil Surgeon or hospital assistant. 799 children were vaccinated, against 1,060 in 1874. Inoculation has been rendered penal, but still it was secretly done. Four convictions were obtained. Small-pox was reported from all parts of the district throughout the year, and measures were taken by the Superintendent of Vaccination for stamping out the disease. At Palamow Assistant Surgeon Agorenath Bose vaccinated 25 cases.

Agency

Four inoculator
convicted.

Singbhoom District. Mr. Manook reports that on the receipt of orders from the Government he discharged such inoculators as could not read and write. The number of ex-inoculators was thus reduced from 54 to 17, and of this, three men could not do any work on account of social obstacles in the localities assigned to them. In consequence 14 vaccinators actually worked and returned 8,235 cases, of which 7,011, or 87 per cent., are reported, but not ascertained, to have been successful. Mr. Manook inspected the work of 9 out of the 14 men (the others worked too far from the station), and saw nearly 3,000 cases. He verified only 69 per cent. of success, and remarks that not only the number vaccinated, but the quality of the vaccination during the season, was far from satisfactory. No epidemic of small-pox occurred: only 21 deaths were caused by it.

Reduction of
ex-inoculators.

Inspection.

Manbhoom District.—Mr. Wilson, Civil Medical Officer, reports that 360 vaccinations were performed at the dispensary of Purulia, and the native doctor attached to the Pandra dispensary also vaccinated 25 children. Inoculation is nowhere practised in the district. All the old inoculators have changed their practice and adopted vaccination. 57 *tikais* worked and visited 466 villages, and operated on 3,616 persons. In addition to the *tikais*, 18 Hindustanee vaccinators worked in 307 villages and vaccinated 15,879 cases. In former years the ex-inoculators used to charge a uniform fee of two annas for each case, but, agreeably to Government order of last year, they charge four annas for each boy and two annas for each girl. Mr. Wilson inspected 375 villages and 26,872 cases. Small-pox is reported to have caused only 35 deaths during the year. Mr. Wilson has submitted a long and interesting report on the work of the converted inoculators through the Superintendent of the Ranchee circle of vaccination, a summary of which is given in Dr. Roy's report. The Civil Surgeon of Purulia affords strong evidence of his beneficial influence in the important section of his duties connected with vaccination.

Dispensary
vaccination

Mortality from
small-pox.

STATISTICAL STATEMENTS.

Summary of Vaccination performed by the General Vaccine Establishment and Vaccination Circles under the Government of Bengal, and by the establishments attached to Civil Stations or Dispensaries, from 1st April 1875 to 31st March 1876.

Circumscription.	Parts comprised in the Circle.	Total number of persons vaccinated.										Re-vaccination.				Primary vaccination.				Re-vaccination.				Paid by the State.	Paid from other sources.	Total cost.	Cost of each successful case.
		Primary vaccination.		Re-vaccination.		Total.		Successful.		Unsuccessful and doubtful.		Unknown.		Total.		In primary.		In secondary.		Total.							
		Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.						
1. Metropolitan Circle	Chowringhee Depot (1)	284	...	284	...	284	...	3	...	284	...	284	...	...	...	...	...	...	...	...	...	...	...	...	...
	Park Street Dispensary (2)	120	36	146	...	120	...	...	...	120	...	120	...	...	...	...	...	...	...	...	...	...	...	...	...
	Medical College (3)	8,841	18,905	27,746	...	8,841	18,905	16	...	8,841	18,905	8,841	18,905	...	...	...	...	...	...	...	...	...	...	...	...
	In the town and suburbs of Calcutta	8,841	18,905	27,746	...	8,841	18,905	16	...	8,841	18,905	8,841	18,905	...	...	...	...	...	...	...	...	...	...	...	...
	South	8,841	18,905	27,746	...	8,841	18,905	16	...	8,841	18,905	8,841	18,905	...	...	...	...	...	...	...	...	...	...	...	...
	Total of Calcutta vaccination	17,811	32,302	40,173	...	17,811	32,302	23	...	17,811	32,302	17,811	32,302	...	...	...	...	...	...	...	...	...	...	...	...
	Jessore and 24 Pergunnahs	120,617	...	120,617	...	120,617	...	274	...	120,617	...	120,617	...	...	...	...	...	...	...	...	...	...	...	...	...
	Ditto	94,038	...	94,038	...	94,038	...	287	...	94,038	...	94,038	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bogra, Hossain, Howrah, and 24 Pergunnahs	282,127	...	282,127	...	282,127	...	270	...	282,127	...	282,127	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total of Metropolitan Circles	471,783	...	471,783	...	471,783	...	941	...	471,783	...	471,783	...	...	...	...	...	...	...	...	...	...	...	...	...
Darjeeling Circle	Darjeeling, Dinapore, Rangpoor, Bogra, Kishabhy, Malda, Jullipore, and Furruckh	136,648	...	136,648	...	136,648	...	6,888	...	136,648	...	136,648	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hazareebagh, Lohardugga, and Palanow	13,818	...	13,818	...	13,818	...	2,877	...	13,818	...	13,818	...	...	...	...	...	...	...	...	...	...	...	...	...
South Pergunnahs Circle	Belmehal, Pakour, Godda, Jantara, and Doobera	94,780	...	94,780	...	94,780	...	523	...	94,780	...	94,780	...	...	...	...	...	...	...	...	...	...	...	...	...
	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
Eastern Bengal	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	18	...	18	...	18	...	585	...	18	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Behar	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	18	...	18	...	18	...	585	...	18	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Orissa	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	18	...	18	...	18	...	585	...	18	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Presidency	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	18	...	18	...	18	...	585	...	18	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Dinapore	Dacca, Furruckpoore, & Mymensingh	4,310	...	4,310	...	4,310	...	585	...	4,310	...	4,310	...	...	...	...	...	...	...	...	...	...	...	...	...
	Patna	18	...	18	...	18	...	585	...	18	...	18	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand Total	Total	983,382	...	983,382	...	983,382	...	28,328	...	983,382	...	983,382	...	...	...	...	...	...	...	...	...	...	...	...	...
	Grand Total	983,382	...	983,382	...	983,382	...	28,328	...	983,382	...	983,382	...	...	...	...	...	...	...	...	...	...	...	...	...

(1) Included in the South Division in Table No. I.

(2) Includes 4 repetition cases.

(3) Includes 3 " " "

(4) Includes 4 " " "

(5) Includes 4 " " "

(6) Includes 11 repetition cases.

(7) Includes 5,711 " " "

(8) Includes 2,088 " " "

(9) Includes 17 " " "

(10) Includes 125 " " "

* Approximate cost.

TABLE No. C.

Return of Primary Vaccinations for the year ending 31st March 1876.

ESTABLISHMENT	Total number of persons vaccinated	Number of persons successfully vaccinated
Government	747,429	640,056
Municipal	59,469	51,518
Local Funds	3,000	2,767
Native States	1,425	1,299
Dispensaries	6,438	6,867
Ex-Inoculators	168,567	155,100

N B—No information has been obtained regarding 72 415 persons vaccinated and 141,981 successfully vaccinated

STATISTICAL STATEMENTS

TABLE

Statement showing particulars of Vaccination in each Division of

1	2	3		4		5		6	7	8
CIRCLES	Name and rank of Superintendent	Number of Native Superintendents, Head Vaccinators		Number of Vaccinators		Total number of persons vaccinated		Collectorate, Political Agency or Native State in which vaccinations were performed during the year	Population in area included in last column	Name of portion of districts or of town
		1875-76	1874-75	1875-76	1874-75	1875-76	1874-75			
North Division										
Town	Surgeon Major T. B. Charles, M.D., Superintendent, General, assisted by two Deputy Superintendents	3	2	6	6	4,512	6,209	In the Town and Suburbs of Calcutta	Town 447,601 Suburbs 257,149 Total 704,750	North Division
Suburbs		1	1	5	5	2,072	2,094			
Cooly Depot						20,158	15,431			
Total		3	3	11	11	27,812	24,675			
South Division										
Town	Surgeon Major T. B. Charles, M.D., Superintendent, General, assisted by two Deputy Superintendents	1	1	5	5	2,510	3,680	In the Town and Suburbs of Calcutta	Town 447,601 Suburbs 257,149 Total 704,750	South Division
Suburbs		2	2	5	5	8,040	8,004			
Cooly Depot						1,151	3,001			
Total		3	3	10	10	12,281	10,685			
Grand Total		6	6	(a) 21	(a) 21	40,173	41,360			

Statement showing particulars of Vaccination in the

1st Metropolitan Circle	Surgeon K. P. Gupta, M.B., Superintendent, assisted by three Deputy Superintendents	4	4	(c) 26	(c) 26	120,619	128,398	Jessore and 24 Pergunnahs	625,514	8 thanas in Jessore, and 3 in 24 Pergunnahs
2nd " "		4	4	(c) 26	(c) 26	99,038	80,947	Jessore	445,720	9 thanas in Jessore
3rd " "		4	4	(c) 26	(c) 26	252,199	193,040	Burdwan Hooghly, Howrah and 24 Pergunnahs	805,460	7 thanas in 24 Pergunnahs, 3 in Howrah, 2 in Hooghly and 5 in Burdwan
Total		12	12	78	78	471,856	402,385			

Statement showing particulars of Vaccination in the

Darjeeling	By establishment	Surgeon-Major E. Liddardale, M.D., Superintendent and one Deputy Superintendent	2		3		4,111		94,712	Darjeeling
			1		12		22,560		1,501,924	Dinagopore
			3		6		18,982		2,130,972	Kumgore
			1		18		43,100		689,467	Bogra
	By licensed vaccinators	Total	1		6		20,644		1,311,729	Rajshahiye
							1,010		670,421	Malda
			7	7	(c) 45	42	109,867	120,669		
			1		10		10,575		436,108	Bogra
	By licensed vaccinators	Total	1		2		1,597		188,100	Dinagopore
			1		4		1,967		107,116	Dinagopore
					9		622		141,507	Julpigoree
			1		2		72		246,755	Purneah
	By licensed vaccinators	Total			8		7,005		460,160	Rajshahiye
			1		29		27,038			
			10	7	74	42	136,905	120,669		

Statement showing particulars of Vaccination in the

Ranchee	Surgeon G. C. Roy, M.D., Officiating Superintendent	1	1	6	8	4,729		1,237,123	Lohardugga and Palamow
		2	2	14	12	9,089		771,975	Hazaribagh
		Total	3	3	20	20	13,818	27,343	

Statement showing particulars of Vaccination in the

Sonthal Pergunnahs	Baroo Muthura Nath Sen, Deputy Superintendent	1	1	13	25	30,806	22,987	Sonthal Pergunnahs	1,018,000	Rajmehal, Pakour, Godda, Jamtara, and Doomsa
--------------------	---	---	---	----	----	--------	--------	--------------------	-----------	--

(a.) 25 vaccinators sanctioned, but 21 employed
 (b.) Includes 7 repetition cases
 (c.) And 8 apprentices
 (d.) Includes 15 repetition cases

No. I.

Superintendence in the Metropolis, Lower Provinces, during the year 1875-76

9											10				11		12	
Primary Vaccination											Re-vaccination				Percentage of successful cases, excluding those unknown from the total		Average number of persons vaccinated by each vaccinator.	
A		B				C				D	A	B	C	D	In primary vaccination.	In secondary vaccination		
Sex.		Caste			Age	Results			Total	Successful	Unsuccessful including those doubtful	Unknown	Total					
Males	Females.	Christians	Hindoo.	Musulmans.	Other castes	Under 1 year.	Above 1 year	Successful	Unsuccessful, including those doubtful	Unknown	Total	Successful	Unsuccessful including those doubtful	Unknown	Total			
2,243	1,939	111	3,371	699		1,288	2,895	4,125	8	49	4,181	17	299	22	315	99.8	5.43	
1,517	1,841	18	2,161	689		965	1,891	2,850	7	1	2,858	5	58	3	64	99.75	8.19	
1,122	804		1,920			385	1,541	1,923	1	2	1,926	2,654	15,050	228	18,532	99.94	14.40	
4,881	4,084	129	7,448	1,388		2,630	6,329	8,958	16	51	8,965	2,670	16,002	258	18,631	99.82	14.32	
1,165	890	238	1,154	713		490	1,596	2,086	5		2,085	125	301		426	99.78	29.34	
3,712	3,056	18	4,158	2,692		595	6,173	6,768	2		6,768	368	1,506		1,874	99.97	19.85	
												277	854		1,131		94.49	
4,967	3,986	256	5,291	4,305		1,084	7,708	8,846	7		8,853	770	2,681		3,451	99.92	23.44	
9,748	8,070	385	12,740	4,691		3,721	14,097	17,744	23	51	(b) 17,818	3,446	18,663	253	22,362	99.87	15.58	1,913

Metropolitan Circles during the year 1875-76.

63,895	56,722	369	65,913	54,336		7,065	112,652	120,285	274	58	120,617		2		2	99.77
50,132	48,910		44,124	54,916		8,101	90,941	98,610	397	85	99,042					99.59
135,366	116,772	510	206,408	45,163		14,615	237,533	251,705	270	103	252,138	9	59	4	72	99.89
240,393	222,404	879	316,503	154,415		30,681	441,116	470,800	941	256	(d) 471,797	9	61	4	74	99.8

Darjeeling Circle during the year 1875-76.

2,088	2,023	42	3,846	8	215	821	3,790	3,874	393	119	4,328					92.04
12,468	10,062		5,832	15,194	1,444	7,222	21,858	21,858	1,759	412	24,023	64	8	4	76	92.55
10,007	8,916		4,132	14,094	135	609	17,774	17,000	900	440	18,949	11	17	8	56	95.08
22,068	20,492	2	6,648	34,545	1,965	2,044	41,116	42,449	2,113	552	45,294	16	2		18	94.83
10,944	9,700		2,942	16,678	1,924	1,082	19,562	20,371	1,104	134	21,608					94.86
510	500		311	679		71	939	982	58	7	1,047					94.82
58,775	51,092	44	22,931	81,188	5,704	4,848	105,019	107,108	6,477	1,651	115,239	91	27	12	130	94.29
8,205	8,044		2,275	11,699	346	2,149	11,960	12,165	200	9	12,390	54	12		60	98.74
899	694		1,391	164	42	45	1,562	1,592	18		1,610					98.98
707	680		618	715	34	40	1,321	1,360	9	2	1,367					99.34
321	301		385	102	45	25	597	597	58		655					97.14
44	28		72			72	72	72	1		73					98.63
5,671	5,273		608	6,379	103	804	6,140	6,965	110	51	7,035	31	9	19	61	98.20
13,007	13,004		4,016	22,825	870	3,269	23,042	23,047	411	62	27,120	87	21	19	127	98.48
72,682	64,096	44	26,947	103,513	6,274	8,117	128,661	133,755	9,884	1,716	(f) 142,859	178	48	31	257	95.1

Ranchee Circle during the year 1875-76

2,327	3,402	2	3,260	280	1,187	731	3,998	3,882	1,385	628	5,875					73.41
4,537	4,552		8,024	750	815	418	8,071	8,005	1,482	544	10,031					84.17
6,866	6,954	2	11,284	1,030	1,502	1,149	12,609	11,887	2,877	1,174	(g) 16,906					80.47

Sonthal Pergunnahs Circle during the year 1875-76.

15,695	14,611	40	8,083	2,579	19,005	3,529	28,777	29,783	538	67	(h) 30,383					98.27
--------	--------	----	-------	-------	--------	-------	--------	--------	-----	----	------------	--	--	--	--	-------

(e) And 39 apprentices
(f) Includes 5,711 repetition cases
(g) Ditto 2,088 ditto
(h) Ditto 17 ditto

TABLE

Statement showing particulars of Vaccination in the

1	2	3		4		5		6	7	8
CIRCLES.	Name and rank of Superintendent	Number of Native Superintendents, Head Vaccinators		Number of Vaccinators.		Total number of persons vaccinated		Collectorate, Political Agency or Native State in which vaccinations were performed during the year	Population in area included in last column.	Name of portion of districts or of town
		1876-76.	1874-75	1876-76	1874-75	1876-76	1874-75			
Eastern Bengal	Mr. A. Lyon, 1st class Apothecary Superintendent	6	6	(a) 56	63	96,840	110,950	Dacca, Furreedpore, and Mymensingh	Dacca 1,852,993 Furreedpore 1,012,589 Mymensingh 2,348,917	Dacca district—Harirampur, Nowabgunge, Srinagar, Moon-sheegunge, Naraingunge, Lal-bag Sabhar, Manickgunge, Jafargunge, Kapasah, Rypore, and Rupgunge—Furreedpore—Furreedpore Sadipore, Ampore, Boshna, Goulundo, Belgachi, Pangsha, Deorah, Madaropore and Polong, Mymensingh District Atteah

Statement showing particulars of Vaccination in the

Orissa	Baboo Tarenes Churn Dutt, Superintendent	1		(c) 10		1,293		Cuttack		Northern portion of Sudder thana (Cuttack), outposts of Tangah Borchona, and Khun-detor, Dhurinsala outpost, Mahanghathana, Salipore sub-divisional town, Kondradpara, town of Patamondy, in thana Patasundy
--------	--	---	--	--------	--	-------	--	---------	--	--

Statement showing particulars of Vaccination in the

Behar	Baboo Kaly Das Bose Superintendent	(d) 3		(c) 16		4,328		Patna	1,559,638	...
Grand Total		42	35	2-8	249	795,519	72,614			

(a.) And 24 apprentices
 (b.) Includes 125 repetition cases
 (c.) And 9 apprentices.

No. I.—(Continued.)

Eastern Bengal Circle during the year 1875-76.

9										10				11		12		
Primary vaccination.										Re-vaccination				Percentage of successful cases, excluding those unknown from the total		Average number of persons vaccinated by each vaccinator		
A		B				C				D	A	B	C	D	In primary vaccination		In secondary vaccination.	
Sex		Caste				Age		Results			Successful	Unsuccessful, including those doubtful	Unknown	Total				
Males	Females.	Christians	Hindoo.	Musulmans	Other castes	Under 1 year	Above 1 year	Successful	Unsuccessful, including those doubtful	Unknown	Total	Successful	Unsuccessful, including those doubtful	Unknown	Total			
46,150	47,030		38,780	58,000		5,302	91,478	96,621	282		(2) 96,903	25	35		60	99.72	41.66	1,210.5

Orissa Circle during the year 1875-76

679	614	1	1,153	110		57	1,236	1,211	69	6	1,286		7		7	94.61		65
-----	-----	---	-------	-----	--	----	-------	-------	----	---	-------	--	---	--	---	-------	--	----

Behar Circle during the year 1875-76.

2,208	2,102	11	3,340	70		557	3,753	3,690	527	125	4,310	5	13		14	87.35	27.77	270.5
406,479	366,481	1,392	419,618	326,109	26,761	53,113	719,767	705,189	12,128	3,393	780,704	3,695	15,827	288	22,778	99.63	10.28	

(d) 3 unemployed
(e) 14 ditto

TABLE No II.

Statement showing the monthly number and results of the Vaccinations performed in each Circle of Superintendence in the Metropolis, Lower Provinces, and Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, Behar, Orissa, and Eastern Bengal Vaccine Circles, during the year 1875-76

2	3	4	5			6	7
Months.	District in which operations were chiefly conducted in each month	Total number vaccinated	RESULTS			Total	Average percentage of successful, excluding those unknown
			Successful	Unsuccessful, including doubtful	Unknown		
1875							
April	Town, primary	253	237		16	253	100
	Ditto, repetition	1		1		1	
	Ditto, re-vaccination	40	5	32	3	40	15 51
	Suburbs, primary	111	111			111	100
	Ditto, re-vaccination	6	1	5		6	16 66
May	Coolie depôt primary	187	187			187	100
	Ditto ditto, re vaccination	1,698	245	1,446	7	1,698	14 48
	Town, primary	144	142	1	1	144	98 50
	Ditto re vaccination	29	4	25		29	15 19
	Suburbs primary	18	18			18	100
June	Ditto re vaccination	7	1	6		7	14 28
	Coolie depôt primary	183	183			183	100
	Ditto ditto re vaccination	1,707	212	1,452	23	1,707	11 77
	Town, primary	65	65			65	100
	Coolie depôt primary	145	145			145	100
July	Ditto ditto, re vaccination	1,352	147	1,173	32	1,352	11 13
	Town, primary	43	43			43	100
	Suburbs, ditto	14	14			14	100
	Coolie depôt, primary	153	153			153	100
	Ditto ditto re vaccination	1,306	236	1,071		1,306	17 99
August	Town, primary	17	17			17	100
	Ditto, re-vaccination	5		5		5	
	Suburbs, primary	46	46			46	100
	Coolie depôt, primary	39	39			39	100
	Ditto ditto, re-vaccination	583	85	498		583	14 50
September	Town, primary	29	29			29	100
	Ditto, re-vaccination	1		1		1	
	Suburbs, primary	47	47			47	100
	Coolie depôt, primary	94	94			94	100
	Ditto ditto, re-vaccination	945	119	826		945	1 59
October	Town, primary	146	145	1		146	99 31
	Suburbs, ditto	130	130			130	100
	Ditto, re-vaccination	1		1		1	
	Coolie depôt, primary	84	83	1		84	94 80
	Ditto ditto, re-vaccination	1,076	140	923	13	1,076	15 17
November	Town, primary	835	835			835	100
	Ditto, re-vaccination	19	2	17		19	10 62
	Suburbs primary	375	373	2		375	99 66
	Coolie depôt primary	187	197			187	100
	Ditto ditto, re-vaccination	1,637	218	1,402	17	1,637	11 45
December	Town, primary	404	403	1		404	99 78
	Ditto repetition	1	1			1	100
	Ditto re vaccination	5		5		5	
	Suburbs primary	480	480			480	100
	Ditto re-vaccination	1		1		1	
1876							
January	Coolie depôt, primary	176	176			176	100
	Ditto ditto, re vaccination	1,320	181	1,123	17	1,320	15 89
	Town primary	540	535			540	100
	Ditto re vaccination	51	2	49		51	3 92
	Suburbs primary	487	487			487	100
February	Ditto, re vaccination	1		1		1	
	Coolie depôt, primary	222	220			222	100
	Ditto ditto re-vaccination	2,176	874	1,738	64	2,176	17 70
	Town primary	1,308	1,296	2	10	1,308	99 84
	Ditto repetition	1	1			1	100
March	Ditto re vaccination	113	4	105	4	113	3 66
	Suburbs primary	646	646			646	100
	Ditto, re vaccination	26	2	24		26	7 69
	Coolie depôt primary	251	251			251	100
	Ditto ditto re vaccination	2,502	353	2,108	43	2,502	14 35
April	Town primary	833	815	2	16	833	99 75
	Ditto, repetition	1	1			1	100
	Ditto re vaccination	72		57	15	72	
	Suburbs primary	504	498	5	1	504	99 00
	Ditto re vaccination	22	1	18	3	22	5 26
May	Coolie depôt primary	205	205			205	100
	Ditto ditto, re-vaccination	2,240	325	1,493	400	2,240	17 75
	Town, primary	4,177	4,122	7	48	4,177	99 83
	Ditto repetition	4	1	1		4	75
	Ditto, re vaccination	335	17	296	22	335	45 16
June	Suburbs, primary	2,858	2,850	7	1	2,858	99 75
	Ditto, re-vaccination	64	5	56	3	64	78 19
	Coolie depôt, primary	1,926	1,923	1	2	1,926	99 94
	Ditto ditto re vaccination	18,542	2,654	15,650	22	18,532	14 33
	1875						
April	Town, primary	103	103			103	100
	Ditto, re-vaccination	42	11	31		42	26 19
	Suburbs, primary	346	346			346	100
	Town, primary	44	44			44	100
	Ditto, re-vaccination	3	1	2		3	33 33
May	Suburbs, primary	119	119			119	100
	Coolie depôt, re-vaccination	63	15	48		63	23 80
	Town, primary	13	13			13	100
	Suburbs, ditto	137	137			137	100
	Coolie depôt, re-vaccination	36	8	28		36	22 22
July	Town, primary	5	5			5	100
	Suburbs, ditto	50	50			50	100

Including cases of success, modified by previous protection, the percentage of success amounts to 34 18
 Ditto ditto ditto ditto ditto ditto
 65 67
 81 85

TABLE No. II.—(Continued.)

1	2	3	4	5			6	7
Circles of superintendence	Months.	District in which operations were chiefly conducted in each month.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, excluding those unknown.
				Successful.	Unsuccessful, including doubtful.	Unknown.		
SOUTHERN (Continued.)	1876	August { Town, primary	4	4	...	...	4	100
		August { Suburbs, ditto	53	53	...	...	53	100
		August { Coolie depot, re-vaccination ...	530	131	399	...	530	24.71
		September { Town, primary	8	8	...	...	8	100
		September { Suburbs, ditto	65	65	...	...	65	100
		September { Town, primary	80	78	2	...	80	97.50
		September { Ditto, repetition	1	1	...	...	1	100
		October { Suburbs, primary	160	158	2	...	160	98.75
		October { Ditto, repetition	2	2	...	...	2	100
		October { Coolie depot, re-vaccination ...	319	77	242	...	319	24.13
		November { Town, primary	204	203	1	...	204	99.50
		November { Ditto, re-vaccination	15	5	10	...	15	33.33
		November { Suburbs, primary	590	590	...	...	590	100
		November { Coolie depot, re-vaccination ...	183	46	137	...	183	25.15
		December { Town, primary	301	301	...	...	301	100
		December { Ditto, re-vaccination	59	15	44	...	59	25.42
		December { Suburbs, primary	787	787	...	...	787	100
		1876						99.69
	1875	January { Town, primary	331	330	1	...	331	...
		January { Ditto, re-vaccination	10	3	7	...	10	30
		January { Suburbs, primary	1,032	1,032	...	...	1,032	100
		January { Ditto, re-vaccination	1,865	369	1,496	...	1,865	19.62
		February { Town, primary	603	603	...	...	603	100
		February { Ditto, re-vaccination	135	64	131	...	135	32.32
		February { Suburbs, primary	2,034	2,034	...	...	2,034	100
		February { Ditto, re-vaccination	9	2	7	...	9	22.22
		March { Town, primary	388	387	1	...	388	99.74
		March { Ditto, re-vaccination	102	26	76	...	102	25.49
		March { Suburbs, primary	1,393	1,393	...	...	1,393	100
		Total { Town, primary	2,084	2,079	5	...	2,084	99.76
		Total { Ditto, repetition	1	1	...	...	1	100
		Total { Suburbs, primary	426	125	301	...	426	29.34*
		Total { Ditto, repetition	6,766	6,764	2	...	6,766	99.97
		Total { Ditto, re-vaccination	2	2	...	...	2	100
		Total { Coolie depot, ditto	1,871	308	1,563	...	1,871	19.63†
		1875						24.40†
METROPOLITAN CIRCLES.	1st Circle.	April { Jessore and 24-Pergunnahs ..	...	...	...	...	...	...
		May { Ditto ditto	369	354	14	...	369	96.19
		June { Ditto ditto	518	515	3	...	518	99.81
		July { Ditto ditto	22	22	...	...	22	100
		August { Ditto ditto	349	346	3	...	349	99.14
		September { Ditto ditto	1,355	1,351	4	...	1,355	99.76
		October { Ditto ditto	5,412	5,403	9	...	5,412	99.81
		November { Ditto ditto	14,443	14,404	39	...	14,443	92.81
		December { Ditto ditto	17,335	17,313	22	...	17,335	99.87
		1876						...
		January { Ditto ditto	19,219	19,194	25	...	19,219	99.87
		February { Ditto ditto	26,129	26,081	48	...	26,129	99.84
		March { Ditto ditto	35,438	35,372	66	...	35,438	99.66
		1875	Total	120,619	120,285	334	120,619	99.77
	2nd Circle.	April { Jessore .. .. .	...	...	...	...	...	...
		May { Ditto	43	37	6	...	43	86.04
		June { Ditto .. .. .	...	...	...	...	...	...
		July { Ditto .. .. .	...	...	...	...	...	...
		August { Ditto	78	76	2	...	78	97.43
		September { Ditto	209	205	4	...	209	98.08
		October { Ditto	7,307	7,270	37	...	7,307	98.98
		November { Ditto	13,662	13,602	60	...	13,662	99.49
		December { Ditto	22,097	22,019	78	...	22,097	99.66
		1876						...
		January { Ditto	20,515	20,441	74	...	20,515	99.67
		February { Ditto	20,211	20,124	87	...	20,211	99.58
		March { Ditto	14,920	14,876	44	...	14,920	99.71
		1875	Total	98,012	98,010	2	98,012	99.99
	3rd Circle.	April { Hooghly, Howrah, 24-Pergunnahs, and Burdwan ..	4,420	4,404	16	...	4,420	99.63
		May { Ditto ditto	3,677	3,649	28	...	3,677	99.23
		June { Ditto ditto	2,793	2,752	41	...	2,793	98.56
		July { Ditto ditto	3,345	3,339	6	...	3,345	99.79
		August { Ditto ditto	3,900	3,882	18	...	3,900	99.54
		September { Ditto ditto	4,681	4,662	19	...	4,681	99.61
		October { Ditto ditto	9,925	9,900	25	...	9,925	99.74
		November { Ditto ditto	26,123	26,064	59	...	26,123	99.80
		December { Ditto ditto	38,351	38,297	54	...	38,351	99.97
		1876						...
		January { Ditto ditto	44,232	44,190	42	...	44,232	99.94
		February { Ditto ditto	61,214	61,166	48	...	61,214	99.92
		March { Ditto ditto	49,460	49,325	135	...	49,460	99.85
		Total	252,210	251,711	499	...	252,210	99.86
		Grand Total	471,871	470,669	2,202	...	471,871	99.78

* Including cases of success, modified by previous protection, the percentage of success amounts to 68.07.

† Ditto ditto ditto ditto ditto ditto 72.46.

76.59.

TABLE No. II.—(Continued.)

1	2	3	4	5			6	7
Circles of superintendence.	Months.	District in which operations were chiefly conducted in each month.	Total number vaccinated.	RESULTS.			Total.	Average percentage of successful, excluding those unknown.
				Successful.	Unsuccessful, including doubtful.	Unknown.		
DARJEELING CIRCLE.	1875.							
	April	Darjeeling, Dinagepore, Bogra, and Malda.	1,155	847	244	64	1,155	77.03
	May	Darjeeling, Dinagepore, and Malda.	1,641	1,574	62	5	1,641	96.21
	June	Ditto ditto	1,877	1,791	73	13	1,877	96.08
	July	Bogra	22	18	4		22	81.81
	August	Darjeeling	81	73	8		81	90.12
	September	Ditto	327	305	10	6	327	95.01
	October	Ditto, Dinagepore, and Rajshahye.	788	729	45	14	788	93.19
	November	Darjeeling, Dinagepore, Rungpore, Bogra, and Rajshahye.	12,734	11,408	1,188	138	12,734	90.57
	December	Dinagepore, Rungpore, Bogra, and Rajshahye.	22,255	20,078	1,771	406	22,255	91.89
	1876.							
	January	Ditto ditto	22,365	20,454	1,435	476	22,365	93.90
	February	Darjeeling, Dinagepore, Bogra, and Rajshahye.	17,186	16,489	798	249	17,186	95.37
	March	Ditto ditto	29,136	28,020	833	283	29,136	97.14
	1875.	Total	109,807	101,736	6,477	1,654	109,807	94.01
	By vaccine establishment.							
	November	Bogra, Rajshahye, and Dinagepore.	1,792	1,752	39	1	1,792	97.82
	December	Ditto ditto	5,784	5,708	65	11	5,784	98.87
	1876.							
	January	Bogra, Dinagepore, Rajshahye, Julpore, and Rungpore.	6,828	6,686	133	9	6,828	98.04
	February	Bogra, Dinagepore, Rajshahye, Julpore, Rungpore, and Purneah.	7,304	7,194	91	19	7,304	98.75
	March	Ditto ditto	5,203	5,098	83	22	5,203	98.39
RANCHER.	1875.	Total	26,911	26,138	411	62	26,911	98.46
	April	Hazareebagh and Lohardugga	551	459	70	22	551	86.76
	May	Hazareebagh	14	9	4	1	14	69.23
	June	Ditto	3				3	
	July	Lohardugga	83	66	17		83	79.51
	August	Ditto and Hazareebagh	55	2	52	1	55	3.70
	September	Lohardugga	23		23		23	
	October	Ditto	20	0	11		20	
	November	Ditto and Hazareebagh	1,782	1,587	117	78	1,782	89.13
	December	Ditto ditto	2,114	1,933	116	65	2,114	92.58
	1876.							
	January	Ditto ditto	1,630	1,330	169	122	1,630	88.78
	February	Ditto ditto	3,177	2,684	128	365	3,177	95.15
	March	Ditto ditto	4,306	3,769	313	284	4,306	92.33
	1875.	Total	13,818	11,867	1,023	934	13,818	92.09
SOUTH PEGUANS.	April	Rajmehal, Pakour, Jamtara, Godda, and Doomka.	1,540	1,478	62		1,540	95.97
	May	Ditto ditto	1,073	1,057	15	1	1,073	98.60
	June	Rajmehal and Pakour	329	240	89		329	72.94
	July	Rajmehal	354	338	14	4	354	96.02
	August	Ditto	140	71	3		140	95.94
	September	Ditto	139	139	7		139	96.20
	October	Ditto, Pakour, Godda, Doomka, and Jamtara.	1,359	1,266	73	20	1,359	94.54
	November	Ditto ditto	4,279	4,241	38		4,279	99.11
	December	Ditto, Godda, and Doomka.	4,642	4,542	98	2	4,642	97.88
	1876.							
	January	Ditto ditto	5,573	5,504	65		5,573	98.83
	February	Ditto, Godda, Doomka, and Pakour.	7,040	6,976	46	24	7,040	99.34
	March	Ditto ditto	3,889	3,800	13	16	3,889	99.63
	1875.	Total	30,306	29,710	523	67	30,306	98.23
EASTERN REGAL CIRCLE.	April	Primary	1,178	1,175	3		1,178	99.74
		Repetition						
		Re-vaccination						
	May	Primary	112	112			112	100
		Repetition						
		Re-vaccination						
	June	Primary	22	22			22	100
		Repetition						
		Re-vaccination						
	July							
	August							
	September	Primary	227	226	1		227	99.90
		Repetition						
		Re-vaccination						
	October	Primary	3,447	3,437	10		3,447	99.08
		Repetition	3	1	2		3	33.33
		Re-vaccination	3	2	1		3	66.66
	November	Primary	15,790	15,731	59		15,790	99.63
		Repetition	32	30	2		32	93.75
		Re-vaccination	13	6	7		13	46.15
	December	Primary	22,832	22,770	62		22,832	99.73
		Repetition	41	41			41	100
		Re-vaccination	11	7	4		11	63.63

TABLE No. II.—(Concluded.)

Circles of administration	Months	District in which operations were chiefly conducted in each month	Total number vaccinated	RESULTS			Total	Average percentage of successful, excluding those unknown
				Successful	Unsuccessful, including doubtful	Unknown		
EASTERN PERSIAN CIRCLE— (Coochin)	1876							
	January	Primary Repetition Re-vaccination	17,100 5 2	17,168 3 2	31 2 2		17,199 5 2	99.82 0 0
	February	Primary Repetition Re-vaccination	18,486 23 30	18,430 25 10	56 25 20		18,486 25 30	99.69 100 33.30
	March	Primary Repetition Re-vaccination	17,487 19 1	17,438 14 1	49 5 1		17,487 19 1	99.71 73.68 0
	Total	Primary Repetition Re-vaccination	96,780 125 60	96,709 114 25	271 11 35		96,780 126 60	99.70 91.62 41.66
	1875							
	April							
	May							
	June							
	July							
	August							
	September							
	October							
	November							
	December							
CENTRAL CIRCLE— (Bengal)	1876							
	January	Cuttack	51	24	30		51	44.44
	February	Iditto	259	253	5	1	259	98.15
	March	Iditto	950	944	41	5	980	93.79
	Total		1,260	1,211	76	6	1,293	94.00
	1875							
	April							
	May							
	June							
	July							
	August							
	September							
	October							
	November							
	December							
WESTERN CIRCLE— (Bengal)	1876							
	January	Sudder and Dinapore sub-divisions of the Patna district	691	703	79	18	691	88.24
	February		1,958	1,657	268	53	1,958	86.15
	March		1,679	1,435	101	53	1,679	88.40
	Grand Total		4,328	3,695	539	125	4,328	87.66

TABLE No. III.

Statement showing Expenditure of Vaccine Department in each Circle of Superintendence in the Metropolis, Lower Provinces, Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, Eastern Bengal, Orissa, and Behar Circles, during 1875-76.

1	2	3	4	5	6	7	8
Circle.	PARTICULARS.	Sanctioned.	Expended.	Total number vaccinated.	Percentage of successful cases, excluding those unknown from the total.	Cost of each successful case, excluding cases of modified success after re-vaccination.	REMARKS.
CALCUTTA AND SUBURBS.	<i>Paid by Government.</i>	Rs. A. P.	Rs. A. P.			Rs. A. P.	
	Office establishment ...	864 0 0	864 0 0	.....	.. ..	.....
	2 Native Superintendents ...	3,600 0 0	3,101 4 7	.....	.....	.....
	3 Vaccinators ...	300 0 0	360 0 0	.....	.....	.....
	Contingencies, including the office rent ...	788 0 0	834 5 0	.....	.....	.....
	Travelling allowance ...	720 0 0	648 6 2	.....	.....	.....
	Cost of postage labels ...	23 0 0	25 0 0	.....	.....	.....
	Total ...	6,355 0 0	5,832 15 9	.....	.....	.....
	<i>Paid by Town Municipality.</i>						
	3 Head Vaccinators, at Rs. 15 each per month ...	1,980 0 0	*1,524 0 0	.....	.....	.....	* Four vaccinators, three at Rs. 10 each and one at Rs. 8 per mensem, were not employed. The sum of Rs. 456 has been refunded to the Town Municipality.
	3 Vaccinators, at Rs. 12 each per month ...						
	6 Vaccinators, at Rs. 10 each per month ...						
	3 Vaccinators, at Rs. 8 each per month ...						
	Contingencies, at Rs. 18-5-4 per month ...	220 0 0	220 0 0	.....	.....	...
	Total ...	2,200 0 0	1,744 0 0	.....	.....	.....
	<i>Paid by Suburban Municipality.</i>						
	3 Head Vaccinators, at Rs. 15 each per month ...	1,764 0 0	1,764 0 0	.....	.....	.....
	2 Vaccinators, at Rs. 12 each per month ...						
	7 Vaccinators, at Rs. 10 each per month ...						
	1 Vaccinator, at Rs. 8 per month ...						
	Contingencies at Rs. 10-10-8 each per month ...	200 0 0	200 0 0	.....	.....	.....
	Total ...	1,964 0 0	1,964 0 0	.....	.....	.....
	GRAND TOTAL ...	10,519 0 0	9,540 15 9	40,173	98'87	0 7 2	
METROPOLITAN CIRCLES.	<i>Paid by Government.</i>						
	Superintendent's pay and Presidency house rent ...	8,100 0 0	8,100 0 0	.....	.....	.....
	3 Native Superintendents, at Rs. 200 each per month ...	7,200 0 0	7,200 0 0	.....	.....	.....
	12 Head Vaccinators, at Rs. 15 each per month ...	1,800 0 0	1,968 6 7	.....	.....	.....
	78 Ordinary Vaccinators, at Rs. 10 each per month ...	8,080 0 0	8,471 6 1	.....	.....	.....
	3 Clerks, one at Rs. 50 and two at Rs. 30 each ...	1,320 0 0	1,320 0 0	.....	.....	.....
	24 Apprentices, at Rs. 5 each ...	1,140 0 0	1,235 2 10	.....	.....	.....
	9 Peons, at Rs. 6 from September to March ...	576 0 0	576 0 0	.....	.....	.....
	3 Peons, from April to August, and one at Rs. 7 throughout the year, and one sweeper at Rs. 2 throughout the year ...						
	Travelling allowance ...	8,304 0 0	8,119 0 0	.....	.....	.....
DARJEELING CIRCLE.	Office rent, at Rs. 25 per month ...	300 0 0	300 0 0	.....	.....	.....
	Cost of postage labels ...	45 0 0	† .....	.....	.....	.....
	Contingencies ...	492 0 0	602 6 6	.....	.....	.....	† Paid from contingencies.
	Total ...	37,487 0 0	37,952 0 0	471,856	99'79	0 1 3	
	<i>Paid by Government.</i>						
	1 Superintendent ...	9,600 0 0	9,600 0 0	.....	.....	.....
	1 Deputy Superintendent ...	765 0 0	809 0 5	.....	.....	.....
	5 Inspectors ...	1,380 0 0	740 0 0	.....	.....	.....
	7 Native Superintendents ...	1,584 0 0	1,325 1 3	.....	.....	.....
	45 Vaccinators ...	4,370 0 0	3,304 8 1	.....	.....	.....
	1 Clerk ...	300 0 0	300 0 0	.....	.....	.....
	2 Peons ...	120 0 0	108 3 11	.....	.....	.....
	39 Apprentices ...	1,657 0 0	1,137 10 2	.....	.....	.....
	Travelling allowance ...	1,233 0 0	1,209 14 9	.....	.....	.....
	Contingencies ...	675 0 0	621 6 0	.....	.....	.....
	1 Head Vaccinator ...	170 0 0	.....	.....	.....	.....
	Total ...	21,854 0 0	19,158 12 7	136,905	95'07	0 2 3	

TABLE No. III.—(Continued).

1	2	3	4	5	6	7	8
Circle.	PARTICULARS.	Sanctioned.	Expended.	Total number vaccinated.	Percentage of successful cases, excluding those unknown from the total	Cost of each successful case, excluding cases of modified success after re-vaccination.	REMARKS.
	<i>Paid by Government.</i>	Rs. A. P.	Rs. A. P.			Rs. A. P.	
RANCHI CIRCLE.	Superintendent, at Rs. 600 per month	7,200 0 0	6,064 9 0	.....	.....	.....
	Native Superintendents, at Rs. 20 and Rs. 16 per month	636 0 0	636 0 0	...	.....	.....
	Vaccinators, at Rs. 10 and Rs. 6 per month	1,940 0 0	1,821 3 0	.....	.....	.....
	Office establishment, at Rs. 30	300 0 0	300 0 0	.....	.....	.....
	Contingencies	284 0 0	312 15 3	.....	.....	.....
	Travelling allowance	703 0 0	630 8 6	.....	.....	.....
	Cost of postage labels	19 0 0	10 0 0	.....	.....	.....
	Total	11,142 0 0	10,773 11 0	13,818	80.47	0 14 6	
SOUTHAL PENGUNEHARS CIRCLE.	<i>Paid by Government.</i>						
	1 Deputy Superintendent	1,500 0 0	1,200 0 0	.....	.....	.....
	1 Native Superintendent	.....	.....	.....	.....	.....
	1 Vaccinator, at Rs. 16	804 0 0	2,280 9 7	.....	.....	.....
	4 Ditto, at Rs. 13	.....	.....	.....	.....	.....
	8 Ditto, at Rs. 10	.....	.....	.....	.....	.....
	Travelling allowances	351 0 0	322 1 0	.....	.....	.....
	Cost of postage labels	20 0 0	26 12 6	.....	.....	.....
	1 Peon, at Rs. 5 per month	60 0 0	60 0 0	.....	.....	.....
	Total	2,705 0 0	3,889 7 1	30,306	98.23	0 2 1	
EASTERN BENGAL CIRCLE.	<i>Paid by Government.</i>						
	Superintendent, at Rs. 350 per month	4,200 0 0	2,846 10 8	.....	.....	.....
	Deputy Superintendent, at Rs. 30 per month	.....	65 12 11	.....	.....	.....
	6 Head Vaccinators	1,080 0 0	1,041 4 0	.....	.....	.....
	30 Vaccinators	6,480 0 0	4,280 0 1	.....	.....	.....
	20 Extra Vaccinators	.....	913 9 8	.....	.....	.....
	24 Apprentices	.....	602 5 3	.....	.....	.....
	Office establishment	594 0 0	504 0 0	.....	.....	.....
	Travelling allowance	.....	108 0 0	.....	.....	.....
	Contingencies	342 0 0	968 14 10	.....	.....	.....
	Total	12,606 0 0	11,330 10 2	90,540	99.7	0 1 10	
ORISSA CIRCLE.	<i>Paid by Government.</i>						
	1 Superintendent	2,150 0 0	880 0 0	.....	.....	.....
	1 Head Vaccinator, at Rs. 15 per month	775 0 0	45 0 0	.....	.....	.....
	10 Ordinary Vaccinators, at Rs. 10 per month	3,100 0 0	275 3 6	.....	.....	.....
	1 Clerk, at Rs. 25 per month	300 0 0	75 0 0	.....	.....	.....
	9 Apprentices, at Rs. 5 each per month	.....	85 0 0	.....	.....	.....
	1 Peon, at Rs. 6 per month	72 0 0	16 4 1	.....	.....	.....
	Contingencies	300 0 0	72 7 4	.....	.....	.....
	Travelling allowance	500 0 0	181 4 0	.....	.....	.....
	Office rent	.....	26 6 8	.....	.....	.....
	Cost of postage labels	.....	2 0 0	.....	.....	.....
	Total	7,197 0 0	1,058 9 7	1,293	94.09	1 5 10	
BHAR CIRCLE.	<i>Paid by Government.</i>						
	1 Superintendent	2,150 0 0	607 11 9	.....	.....	.....
	5 Head Vaccinators	775 0 0	98 3 6	.....	.....	.....
	30 Ordinary Vaccinators	3,100 0 0	339 11 6	.....	.....	.....
	1 Clerk	300 0 0	41 6 0	.....	.....	.....
	1 Peon	72 0 0	11 15 3	.....	.....	.....
	Travelling allowance	500 0 0	289 4 6	.....	.....	.....
	Contingencies	300 0 0	69 9 0	.....	.....	.....
	Total	7,197 0 0	1,426 13 6	4,328	87.45	0 6 3	
	GRAND TOTAL	1,10,797 0 0	95,726 6 2	795,510	96.13	0 2 0	

TABLE No. IV.

Statement showing the results of the year 1875-76, as compared with those of each of the previous five years in the Metropolis, Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, Eastern Bengal, Orissa, and Behar Vaccine Circles.

Circles.	Years.	Total number of persons vaccinated.	Number successful.	Ratio per cent. of successful cases, excluding those unknown from the total.	NUMBER OF VACCINATORS.				Cost of whole vaccine establishment.	Cost of travelling allowances and contingencies.	Total cost.	Cost of each successful case, excluding cases of modified success after re-vaccination.
					A.	B.	C.	D.				
					Paid by the State.	Paid from other sources.	Total.	Number previously employed as inoculators.				
									Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Calcutta and Suburbs.	1870-71	19,287	14,020	77.82	3	25	28	10	10,258 0 0	2,520 0 0	12,778 0 0	0 14 04
	1871-72	20,535	14,014	70.72	3	24	27	10	10,272 0 0	2,370 0 0	12,642 0 0	0 14 54
	1872-73	31,483	18,216	58.00	3	24	27	10	9,341 8 9	2,210 13 6	11,551 6 3	0 10 11
	1873-74	39,796	20,052	51.95	3	24	27	10	8,112 0 0	1,048 1 5	10,060 1 5	0 8 0
	1874-75	41,300	23,351	56.54	3	24	27	10	8,162 0 0	1,070 11 9	10,132 11 9	0 6 11
	1875-76	40,173	21,190	53.14	3	24	27	9	7,613 4 7	1,927 11 2	9,540 15 9	0 7 2
Metropolitan Circles.	1870-71	140,119	130,630	99.07	66	...	66	13	26,880 0 0	8,335 0 0	35,235 0 0	0 4 04
	1871-72	91,516	90,094	99.55	66	...	66	9	28,019 2 3	6,016 10 8	34,035 12 11	0 6 1
	1872-73	207,074	206,154	99.72	90	...	90	19	23,927 3 5	7,870 10 3	31,797 13 8	0 1 10
	1873-74	306,076	305,909	99.80	90	...	90	21	25,069 10 0	9,657 5 1	35,626 15 1	0 1 10
	1874-75	402,385	401,486	99.80	90	...	90	20	28,542 15 6	9,261 13 1	37,804 12 7	0 1 6
	1875-76	471,856	470,600	99.78	90	...	90	20	29,170 15 6	6,781 6 6	37,952 6 0	0 1 3
Darjeeling Circle.	1870-71	78,772	74,348	95.20	30	6	36	19	15,585 1 8	1,480 5 8	17,371 7 4	0 3 84
	1871-72	111,709	97,982	81.18	42	3	45	19	16,531 1 7	1,323 2 10	17,854 4 5	0 2 10
	1872-73	106,399	100,095	93.97	42	1	43	9	16,578 5 7	1,706 3 4	18,284 8 11	0 2 10
	1873-74	97,757	94,128	95.75	42	...	42	11	16,376 8 3	1,450 14 4	17,827 6 7	0 3 0
	1874-75	120,069	110,849	92.43	42	...	42	8	16,556 9 8	1,205 14 9	17,822 8 5	0 2 6
	1875-76	136,905	133,933	95.07	45	...	45	11	17,322 7 10	1,831 4 9	19,153 12 7	0 2 3
Ranchoe Circle.	1870-71	23,313	20,578	92.12	20	...	20	6	8,066 14 6	979 15 0	9,046 13 6	0 7 04
	1871-72	51,913	47,506	98.10	20	...	20	61	9,083 6 7	994 0 0	10,057 6 7	0 4 7
	1872-73	36,518	35,206	97.77	20	...	20	...	11,178 10 9	1,167 15 4	11,246 10 6	0 5 6
	1873-74	37,411	35,177	90.81	20	...	20	...	10,003 1 8	935 8 6	11,008 10 2	0 5 0
	1874-75	27,343	24,407	87.00	20	...	20	...	10,334 14 7	1,101 9 8	11,436 8 3	0 7 44
	1875-76	13,818	11,857	92.00	20	...	20	...	10,134 3 4	639 8 0	10,773 11 6	0 14 6
Sonthal Pergunnahs Circle.	1870-71	6,454	5,643	87.84	5	...	5	...	1,705 13 2	332 15 6	2,128 13 8	0 6 0
	1871-72	8,352	7,501	90.46	6	...	6	...	2,122 0 0	331 10 6	2,453 10 6	0 4 8
	1872-73	11,071	10,490	95.08	6	...	6	...	2,284 0 0	403 3 6	2,687 3 6	0 4 14
	1873-74	15,030	14,456	96.15	6	...	6	...	2,281 0 0	423 8 0	2,707 8 0	0 2 11
	1874-75	22,867	21,376	93.99	25	...	25	...	3,062 6 74	264 0 0	3,326 6 74	0 2 5
	1875-76	30,306	29,731	98.23	13	...	13	...	3,540 9 7	348 13 6	3,889 7 1	0 2 1
Eastern Bengal Circle.	1872-73	47,549	47,417	90.72	39	...	39	4	4,721 11 7	240 0 0	4,961 11 7	0 1 8
	1873-74	78,491	78,075	90.41	56	...	56	4	9,064 0 0	438 13 0	9,502 13 0	0 1 11
	1874-75	110,050	110,403	90.50	63	...	63	7	11,284 0 0	338 4 0	11,622 4 0	0 1 8
	1875-76	96,540	96,648	90.70	61	...	61	34	10,804 12 4	525 13 10	11,330 10 2	0 1 10
Orissa Circle.	1875-76	1,293	1,211	94.00	10	...	10	...	1,402 14 3	255 11 4	1,658 9 7	1 5 10
Behar Circle.	1875-76	4,328	3,665	87.00	30	...	30	8	1,068 0 0	358 13 6	1,426 13 6	0 6 8

T A B L E N o . V .

TABLE

Statement showing particulars of Vaccination in each of the three Circles

1	2	3		4		5		6	7	8		A	
Circle of medical superintendence	NAME AND RANK OF SUPERINTENDENTS	Number of Native Superintendents attached to the dispensary		Number of Vaccinators attached to the dispensary		Total number of persons vaccinated		Collectorate Political Agency or Native State for the population of which the dispensary is provided	Population of area included in last column	Names of Dispensaries	Sex		
		1875-76	1874-75	1875-76	1874-75	1875-76	1874-75				Males	Females	
PRESIDENTY CIRCLE	C H Joubert civil surgeon			1	1	860	852	Burdwan	2 084 745	Burdwan Cutwa Chukdighoe Jehanabad Kumargungo	433 11 5 24 29	416 4 4 17 20	
	H C Connolly civil medical officer		(a) 6	2		37 435	24 900	Bankura	526 772	Bankura	19 744	17 691	
	A Fitzgibbon officiating civil medical officer		5	1	3 481	40	700	Bearbhoom	695 921	Bearbhoom Hittampore Hooghly	1 767 29 1 786	1 701 17 6-2	
	R F Thompson surgeon major civil surgeon		3	1	3 513		2 694	Hooghly	301,036	Hooghly	1 786	6-2	
	R Bird civil surgeon		1	2	2 957	2 297			731 057	Howrah	1 250	1 072	
	J Greene M.D., civil surgeon		1	1	938	1 431			338 861	Warangal	158	380	
	E J Gayer surgeon major civil surgeon		1	10	12	2-5	4 234	24 Porcunnahs	2,210 047	Buraset Bussorah Barrackpore	8 10 13	116 4	
	C F W Bensley M.D. civil surgeon		1	10	303		2 185	Nuddea	1,812 797	Kishinaghar Onda Ranaghat Santipur Koregatcheo Chandpur Mehpur Koshtea	177 11 15 27 156 61 11	148 116 184 22 160 28 2	
	W H Grogg, M.D., civil surgeon		1	9	97		4,376	Jessore	2 075 021	Jessore Ditto municipality Khalna Dowlatpur Siddhupore	3 376 112 4 292	29 83 97 15 236	
	S M Shircore, civil surgeon		4	4	1 361	2 147		Moorshedabad	1 351 626	Berhampore Mishdabad Jumnapore Jalpaiguri Azimganj Digha	8-0 1 014 314 80 172 75	516 750 341 7 92 48	
	F V B Webber, civil surgeon		1		184			Dinagpore		Dinagpore	174	10	
	Dwarkanath Chatterjee up to 8th February 1876 and P A Minns (honorary surgeon) afterwards civil surgeon		1	1	107	30		Maldah	676 426	Maldah	61	43	
	E C Bensley, surgeon major civil surgeon		1	1	435	1 379		Rajshahye	1 310 720	Boanica Natal Fateh Kurrukhoria Jalpaore Jalpaore Kasimpore	253 324 1 15 312 362 20	182 282 4 268 344 6	
	K D Ghose, M.D. M.R.C.S. civil medical officer		2	2	511	633		Rangpore	2 149 972	Rangpore Meharunge Chhapra Batalm Kakina Siptana	300 58 142 472 29 320	184 48 111 446 12 207	
	R Sandford, civil medical officer		3	3	573	9 090		Bogra	689 407	Bogra (district) Ditto (dispensary)	300 9	237 1	
	G Price, civil surgeon		1	1	254	745		Pubna	1,211,694	Pubna Doolya Buraungo	16 1 721	3 1 535	
	W D Stewart, civil surgeon		2	2	507	892		Cuttack	1,404,784	Cuttack Ditto town Jajpore Ungool Dhenkanal Kondrapara	254 83 49 152 18 19	313 56 13 184 5 5	
	H W Hill, M.D., civil surgeon		2	2	612	737		Pooree	769,674	Pooree	352	260	
	J M Zorab, civil surgeon		2	2	608	653		Balasore	770,232	Balasore	404	204	
Total				71	66	66,066	71,319				35,518	29,292	

(a) And 74

* Included under the sex, castes

STATISTICAL STATEMENTS.

No. V.

of Medical Superintendence in the Province of Bengal during the year 1875-76.

PRIMARY VACCINATION.										RE-VACCINATION.				Percentage of successful cases, excluding those unknown from the total.		Average number of persons vaccinated by each vaccinator.	
B.				C.			D.	A.	B.	C.	D.						
Caste.				Age.		Results.			Successful.	Unsuccessful, including those doubtful.	Unknown.	Total.	In primary vaccination.	In secondary vaccination.			
Christians.	Hindus.	Musulmans.	Other castes.	Under one year.	Above one year.	Successful.	Unsuccessful, including those doubtful.	Unknown.							Total.		
5	546	228	.....	53	796	848	6	...	849	11	...	...	11	99'20	100	680 By native doctor. Ditto. Ditto. Ditto.
...	2	13	.....	.....	15	6	9	...	15	...	...	...	...	40	.....	
...	9	...	.....	1	8	7	2	...	9	...	...	...	...	77'77	.....	
...	21	12	.....	2	39	41	...	...	41	...	...	...	...	100	.....	
1	45	5	.....	6	45	36	13	...	46	...	...	...	...	78'47	.....	
1	35,546	1,886	.....	1,618	55,622	86,019	1,266	170	87,485	...	...	...	...	98'85	...	
5	3,045	418	...	251	3,217	3,200	165	...	3,408	21	...	...	21	98'12	100	698
187	1,772	559	.....	1,867	1,801	1,922	838	213	2,468	603	407	86	1,095	76'98	59'7	1,188
813	904	1,081	74	1,135	1,187	2,046	197	79	2,323	65	...	...	65	91'21	100	2,387
14	894	40	.....	117	881	926	22	...	948	...	...	...	...	97'65	.....	948
...	8	...	.....	...	8	...	8	...	8	...	4	...	4	...	...	By native doctor.
1	161	57	2	23	188	211	7	3	221	8	1	...	4	96'79	75		325
...	5	12	1	No information.	...	18	...	...	18	...	...	...	...	100	...	
...	297	6	303	802	1	...	303	89'99	...		303
...	220	17	...	23	214	217	...	...	237	1	1	2	4	100	50	241
...	348	21	.....	...	869	369	...	...	369	...	...	...	...	100	...	369
...	408	88	...	30	499	499	...	...	499	...	...	...	...	100	...	499
48	201	43	.....	50	302	350	2	...	352	6	...	...	6	96'43	100	356
...	13	10	...	5	18	23	...	...	23	...	...	...	...	100	...	For one week.
...	97	22	...	No information.	...	119	119	100	...		119
6	5	2	...	8	10	12	1	...	18	...	...	...	...	92'90	...	By native doctor.
14	33	41	4	26	60	76	14	2	92	3	3	84'44	100		86
23	149	282	25	7	482	517	109	33	450	39	...	...	39	74'41	100	124'5
3	69	137	...	44	165	195	11	3	209	2	...	...	2	84'88	100	211
...	...	...	19	1	18	14	5	...	19	...	...	...	...	73'68	...	19
...	274	254	...	34	494	492	36	...	528	...	...	...	...	83'18	...	528
3	807	290	286	198	1,138	1,106	92	48	1,386	...	...	...	...	92'35	...	284
...	1,312	447	...	198	1,561	1,582	187	40	1,759	30	10	...	40	92'08	75	233'1	
...	387	820	...	9	646	632	89	30	667	...	...	...	...	84'31	...	667
...	67	...	...	10	67	61	6	...	67	...	...	...	...	91'04	...	67
...	259	1	4	...	304	241	26	7	264	...	...	...	...	89'88	...	264
...	83	40	.....	22	101	118	5	...	123	...	...	...	...	95'93	...	123
8	88	88	...	...	184	184	...	...	184	...	...	...	...	100	...	
...	41	56	7	16	88	87	17	...	104	1	2	...	8	76'81	33'33	107	
...	70	264	1	54	381	391	80	10	421	10	4	...	14	95'13	71'48	425	
...	109	497	...	50	556	584	19	8	605	...	...	...	...	96'84	...	608
...	1	...	...	...	1	1	...	...	1	...	...	...	...	100	...	
...	7	12	...	...	19	12	4	3	19	...	...	...	...	75	...	
...	356	921	3	89	481	534	56	...	590	...	...	...	...	90'34	...	590
...	206	500	...	11	695	628	68	10	706	...	...	...	...	90'23	...	206
...	26	...	...	28	19	7	...	...	28	...	3	...	3	73'68	...	
...	204	250	...	5	539	531	18	...	544	3	2	...	5	97'81	60	274	
...	44	63	...	2	104	92	14	...	108	...	...	...	...	86'79	...	108
...	182	121	...	8	245	230	5	18	253	1	...	...	1	97'87	100	254
...	169	731	17	86	881	838	79	...	917	62	17	...	79	91'38	78'48	996	
...	19	32	...	...	41	35	6	...	41	...	...	...	...	85'36	...	41
...	236	851	...	7	690	564	18	5	687	8	...	...	8	96'9	100	595
...	372	348	23	73	471	483	60	...	543	29	1	...	80	88'95	96'00	191	
...	6	4	...	2	8	8	2	...	10	2	...	...	2	80	100	
...	7	12	...	...	19	11	8	...	19	...	5	...	5	57'9	...	
...	2	...	...	...	3	...	2	...	2	...	...	...	...	...	...
...	458	796	...	33	1,221	997	278	9	1,254	...	...	...	...	77'68	...	1,254
76	815	177	...	57	510	498	139	...	607	...	...	...	...	75'48	...	263'5
20	99	26	...	7	123	120	9	...	130	...	...	...	...	83'52	...	130
...	45	19	...	1	61	58	6	3	62	1	1	...	2	89'55	50		
...	308	23	...	24	312	188	105	40	321	...	5	...	5	64'8	...	386	
...	23	...	...	...	25	5	18	...	23	...	...	...	...	81'74	...	
...	14	10	...	1	38	21	3	...	24	1	...	...	1	87'5	100	
10	601	1	...	23	589	599	78	...	612	...	...	...	...	88'07	...	806
68	446	100	...	26	573	576	89	...	465	109	24	...	143	90'86	76'23	204	
787	52,447	11,013	416	2,852	68,214	60,063	3,883	725	64,471	1,011	407	87	1,590	94'25	67'04		

ex-inoculators.
and ages of primary vaccination.

SUPPLEMENT TO TABLE No. V.

1	2	3	4	5	6	7	8	9										10	11	12							
Office of medical superintendence.	NAME AND RANK OF SUPERINTENDENT.	Number of native superintendents of vaccination attached to the dispensary.		Number of vaccinators attached to the dispensary.		Total number of persons vaccinated.		Collectorate, Police Agency, or Native State, for the population of which the dispensary is provided.	Population of area included in last column.	NAMES OF DISPENSARIES.	PRIMARY VACCINATION.										Average number of persons vaccinated by each vaccinator.						
		1876-76.	1874-76.	1876-76.	1874-76.	1875-76.	1874-76.				A.	B.		C.		D.		RE-VACCINATION.		In primary vaccination.		In secondary vaccination.					
												Sex.	Caste.	Age.	Results.		Successful.	Unsuccessful, including those doubtful.	Unknown.				Successful.	Unsuccessful, including those doubtful.	Unknown.	Total.	
Presidency Office.	R. T. Lyons, officiating civil surgeon.	...	...	...	...	36,509	38,045	35,406	332,101	Midnapore	20,484	18,561	8	51,466	1,359	6,190	No information.	39,045	...	87.12	...	...	384				
	J. M. Zarab, M.B., civil surgeon.	...	...	...	...	569	804	532	332,101	Bhudduck	232	163	3	385	6	...	15	379	267	127	394	67.76	...				
District Office.	Z. A. Ahmed, M.B., officiating civil surgeon.	...	...	...	...	8,425	51,526	38,200	432,867	Dumka	136,590	23,236	73	11,628	687	38,133	2,298	40,338	51,475	51	51,536	...	...	...
		...	...	...	...	329	829	173	148	151	100	69	17	303	309	11	320	...	...	...	...	...	...	...
District Office.	Z. A. Ahmed, M.B., officiating civil surgeon.	...	...	...	...	3,429	2,566	1,250	842,890	Moheshpore	1,250	1,012	...	1,689	232	321	...	2,232	1,878	354	...	2,232	363	46	3,354	87.56	...
		...	...	...	...	1,472	96	48	43	42	11	43	12	54	96	...	...	...	...	...	...	...	...	...	...	...	...
District Office.	Z. A. Ahmed, M.B., officiating civil surgeon.	...	...	...	...	2,902	2,902	1,436	283,440	Deoghar	1,436	1,466	1,100	142	1,689	142	2,730	2,731	151	20	...	...	...	...	...	...	...
		...	...	...	...	646	646	341	190,890	Goddia	341	365	383	63	139	57	589	628	18	646	...	...	...	...	...	...	...
Total		...	...	...	...	43,665	97,515	50,223	46,638	89	44,576	2,595	47,661	2,571	53,545	93,724	3,597	40	97,161	303	46	3,354	86.75	...	...	...	...

* And 43 ex-inoculators.
† And 26 ex-inoculators.
‡ Ex-inoculators.

By ex-inoculators, who charge their own fees.

TABLE No. VI.

Vaccine Census.

LOCALITIES.		Class of persons examined.	Number examined.	Inoculated.	Per cent of total examined.	Vaccinated.	Per cent of total examined.	Had small-pox.	Per cent of total examined.	Unprotected.	Per cent of total examined.
District.	Place.										
Burdwan	Burdwan	Prisoners ...	1,190	894	74.74	15	1.25	219	18.31	68	5.68
	...	School boys ...	34	9	25	21	58.33	5	13.88	1	2.77
	Chuckdighee	Dispensary patients	325	40	12.31	245	75.38	10	8.07	30	9.23
	Jehanabad	Hindooes ...	1,251	443	35.08	569	46.22	91	7.39	128	10.39
Beerbhoom	Beerbhoom	Mahomedans ...	305	52	17.04	104	34.09	127	41.63	22	7.21
	...	Prisoners ...	182	110	60.43	61	33.51	9	4.94	2	1.09
	...	Government school	314	118	37.57	111	35.35	14	4.45	71	22.61
	...	Vernacular school	184	61	33.19	33	20.12	9	5.48	61	37.13
Hooghly	Hooghly	Hindooes ...	465	.....	.....	361	77.61	40	8.58	104	21.01
	...	Mahomedans ...	204	.....	.....	104	50.98	49	24.01	51	25
	Howrah	School boys ...	567	201	35.44	271	47.79	35	6.17	60	10.58
	...	Hospital patients	9,370	5,090	53.08	904	10.27	1,081	11.56	2,392	24.15
24-Pargunnahs	Agarparah	Villagers ...	473	282	59.80	142	30.02	6	1.28	63	13
	...	School boys ...	289	60	20.87	179	61.93	23	7.98	18	6.2
	...	Dispensary patients	223	74	33.17	98	43.94	4	1.79	47	21.07
	...	Government school	289	32	13.13	178	78.03	15	6.27	16	6.69
Nuddea	Baraset	Prisoners ...	644	402	71.73	97	15.06	58	9	27	4.19
	...	Dispensary patients	3,535	2,172	61.44	324	28.80	492	13.94	47	1.32
	Busseerhat	Population ...	571	179	31.35	317	55.53	31	5.42	44	7.70
	Kishnagurh	Prisoners ...	5,723	3,218	56.22	998	17.43	409	7.14	1,098	19.18
Jessore	Ditto	Mahomedans	2,212	913	41.25	763	34.44	46	2.07	491	21.27
	Woolah	Population ...	241	.....	.....	241	100	.....	.....	.....	.....
	Meherpore	Ditto	319	200	62.81	73	22.88	18	5.64	19	5.95
	Sreedharপুর	School boys ...	50	37	74	13	26	.....	.....	.....	.....
Moorshedabad	...	Villagers ...	52	48	92.30	4	7.69	.....	.....	.....	.....
	...	Hindooes ...	633	523	82.46	104	16.44	.....	.....	7	1.10
	Khoolnah	Masulmans	324	118	36.40	195	60.11	.....	.....	.....	2.46
	...	Christians ...	43	.....	.....	41	95.34	.....	.....	2	4.65
Moorshedabad	Berhampore	School boys ...	455	228	50.10	206	45.27	15	3.29	8	1.31
	...	Ditto	240	56	23.34	57	23.75	79	32.91	18	7.5
	Moorshedabad	Hindooes ...	338	146	43.19	83	24.55	45	13.31	64	18.92
	Kandi	School boys ...	51	19	39.25	15	27.41	10	19.60	7	13.72
Maldah	Azimganje	Prisoners	614	535	87.13	2	.32	54	8.63	24	3.90
	...	Dispensary patients	5,211	3,940	75.60	504	9.67	406	7.77	362	6.94
	Sudder Maldah	Population ...	227	113	49.77	70	30.83	26	11.01	15	7.23
	Bauleah	Prisoners ...	293	150	51.19	72	24.57	17	5.80	54	18.43
Rajshahye	Rajshahye	Jail establishment	647	11	1.70	515	79.59	30	4.63	91	14.06
	Pooteah	Population ...	15	1	6.66	13	86.66	1	6.66	.....	.....
	...	Hindooes ...	105	74	70.47	31	29.52	.....	.....	.....	.....
	Kasampur	Mahomedans	44	12	27.27	24	54.57	1	2.27	7	15.90
Rangpore	...	Jail population ...	437	302	70.72	35	8.19	40	9.30	50	4.70
	...	Population ...	4,840	2,483	51.30	788	16.28	431	8.94	1,184	23.51
	Rangpore	School boys ...	428	155	36.50	188	43.92	16	3.73	69	16.12
	...	Dispensary patients	3,191	2,080	65.18	316	9.90	235	7.39	560	17.54
Rangpore	Mahegunge	Mahomedans	1,111	329	29.61	320	28.80	218	19.62	244	21.96
	...	Hindooes ...	1,088	415	38.41	251	23.17	186	17.09	236	21.69
	...	School boys ...	125	65	52	40	32	8	6.4	12	9.6
	Oolipore	Dispensary patients	400	310	77.5	10	2.5	28	6.5	48	12
Rangpore	...	Villagers ...	425	315	74.11	12	2.82	31	7.29	67	15.76
	...	School boys ...	76	24	31.57	3	3.94	6	6.57	44	57.89
	Gaibandha	Population ...	933	613	65.70	63	6.75	74	7.93	183	19.67
	...	Dispensary patients	2,213	1,360	61.45	213	9.62	184	8.31	456	20.60
Rangpore	Batahim	Population ...	640	448	70	174	27.18	16	2.5	8	3
	...	Dispensary patients	200	155	77.5	45	2.4	.....	.....	.....	.....
	...	School boys ...	150	25	16.7	124	82.7	1	.6	.....	.....
	Ditto	Population ...	18	12	66.7	.....	.....	.....	.....	.....	.....
Rangpore	Tooshbundee	Population ...	1,350	500	37.03	.....	.....	170	12.59	680	50.37
	...	Dispensary patients	47	31	65.95	.....	.....	2	4.25	14	29.79
	...	Population ...	590	187	31.69	537	90.22	7	1.23	38	6.68
	Bogra	School boys ...	117	8	6.84	96	82.05	1	.85	12	10.36
Bogra	...	Prisoners ...	187	124	66.31	35	18.71	21	11.23	7	3.74
	Ditto	Hindooes ...	351	230	65.52	27	7.69	19	5.41	15	4.27
	...	Mahomedans	483	392	81.16	72	14.91	11	2.27	8	1.65
	Nowkhilla	Population ...	55	19	34.54	25	45.45	4	7.27	7	12.73
Pubna	Pubna	School boys ...	201	141	70.15	29	14.42	4	1.99	27	13.43
	...	Prisoners ...	102	98	96.11	1	.98	4	3.92	1	.11
	Doolyo	Hindooes & Mahomedans	132	100	75.76	2	1.51	20	15.15	10	7.57
	Sirajgunge	School boys ...	285	180	63.0	57	21.51	13	4.59	36	12.63
Pooree	...	English schools ...	102	41	40.19	10	9.81	33	32.35	18	17.64
	...	Vernacular ...	62	13	20.96	6	9.67	24	38.71	19	30.65
	...	Normal ...	17	15	88.23	.....	.....	2	11.76	.....	.....
	...	Prisoners ...	39	28	71.79	9	23.08	50	50.17	2	2.25
Cuttack	Dhenkanal	Population ...	283	118	41.7	34	12.01	67	23.67	64	22.61
	Dacca	Prisoners ...	1,110	709	63.87	80	7.21	119	10.72	202	18.19
	...	Ditto	1,441	1,075	74.60	60	4.16	29	2.01	277	19.22
	Furreedpore	Schools ...	609	274	45.09	301	49.42	7	1.15	27	4.43
Backergunge	Burrial	Prisoners ...	1,097	819	74.65	27	2.46	16	1.46	235	21.43
	...	Ditto	1,383	584	42.08	51	3.62	290	22.21	452	33.90
	Mymensingh	Population ...	1,369	991	72.38	.....	.....	1	.07	877	27.54
	Nagarpore	Prisoners ...	199	131	65.83	48	24.12	18	9.04	2	1.01
Noakholly	Noakholly	School boys ...	325	149	45.84	120	36.92	13	4.0	43	13.23
	...	Police ...	115	78	67.83	17	14.78	18	15.65	3	2.73
	...	Prisoners ...	290	264	91.03	21	7.24	5	1.72	.....	.....
	...	School boys ...	586	310	52.89	197	33.67	23	3.93	55	9.40
Tipperah	Comillah	Rural population	50	.....	.....	50	100	.....	.....	.....	.....
	...	Police hospital ...	5,451	2,184	39.51	1,078	19.77	1,099	31.16	530	9.53
	Patna	Prisoners ...	1,490	688	46.16	20	1.34	297	19.93	515	34.56
	Gya	School boys ...	336	187	55.70	28	8.33	117	34.82	34	7.14
Shahabad	Arrah	Prisoners ...	1,176	464	39.45	53	4.5	565	48.04	80	4.76
	...	Hindooes ...	125	100	80	20	16	5	4	.....	.....
	Sasmeratn	Mahomedans	290	125	43.1	75	25.86	25	8.62	25	8.62
	Doomraou	Population ...	200	145	72.5	37	18.5	76	38.0	42	21.0
Shahabad	Buxar	School boys ...	100	68	68	11	11.33	20	20	1	1
	...	Prisoners ...	16	12	75	.....	.....	4	25	.....	.....

TABLE No. VI.—(Continued.)

LOCALITIES		Class of persons examined	Number examined	Inoculated	Per cent of total examined	Vaccinated	Per cent of total examined	Had small pox	Per cent of total examined	Unprotected.	Per cent of total examined
District	Place										
Tirhoot	Mosufferpore	Dispensary patients	4,132	3,054	73 81	334	8 06	363	8 78	361	9 23
	Durbhunga	Rural population	90	75	83 33	1	1 11	10	11 11	2	2 22
	Hajeepore	Population	5,905	3,473	58 80	10	1 69	1,501	25 40	31	41
	Seetamarce	Ditto	35			35	100				
Sarun	Chupra	Ditto	100	32	32	18	18	35	35	15	15
	Hutwa	Dispensary patients	235	198	84	2	86	10	4 44	16	6 86
	Sewari	Population	7,404	1,380	18 36	964	13 01	4,450	60 11	630	8 5
	Kevilgunge	School boys	50	34	68			16	32		
Chumparan	Motiharee	Ditto	48	31	64 58	7	14 58	9	18 75	1	2 08
		Ditto	86	14	16 28	8	9 30	10	11 63	4	4 65
		Prisoners	288	119	41 32	80	27 77	104	35 75	35	12 15
		Population	1,464	885	60 52	83	5 7	341	23 28	145	9 87
Monghyr	Monghyr	School boys	242	165	68 18	39	16 11	38	15 70		
		Prisoners	408	287	70 34	11	2 69	102	25	8	1 96
		Population	1,125	787	69 95	218	19 37	77	6 84	43	3 82
		Ditto	1,016	558	54 92	45	4 42	338	33 26	105	10 33
Bhagulpore	Mudhparah	Ditto	1,479	860	58 14			87	5 91	15	1 04
		Ditto	1,620	1,418	87 53	587	36 23	135	8 33	67	4 13
		School boys	25	17	68			6	20	3	12
		Villagers	60	45	75			10	16 66	5	8 33
Purneah	Purneah	Dispensary	40	25	62 5			10	25	5	12 5
		Prisoners	345	224	64 92	52	15 07	62	17 90	7	2 02
		Dispensary	2,533	1,822	71 94	46	1 81	406	16 02	259	10 22
		School boys	131	98	74 81	15	11 45	15	11 45	5	3 81
Darjeeling	Darjeeling	Population	808	162	20 05	346	42 82	35	4 33	69	8 54
		Ditto	1,000	433	43 33	255	25 5	253	25 3	69	6 9
		Ditto	840	468	55 71	198	23 57	85	10 11	89	10 60
		Prisoners	501	306	61 07	14	2 79	55	10 97	128	25 54
Lohardugga	Ranchee	Police guards	84	88	104 76	80	95 24	15	17 85	1	1 19
		Prisoners	136	29	21 32	20	14 70	52	38 23	85	60 14
		Police constables	25	9	36	7	28	9	36		
		Population	2,242	455	20 30	496	22 12	430	19 17	921	41 12
Singbhoom	Chyebassa	Dispensary patients	1,070	710	66 35	127	11 86	126	11 77	107	10
		Prisoners	106	127	120 75	1	0 94	18	16 98	20	18 87

TABLE No. VII.

STATISTICAL STATEMENTS.

TABLE

Deaths registered from "Small-pox in the Districts of

Number.	CIRCLES.	DIVISIONS.	DISTRICTS.	Population according to Census of 1872.			January.			February.			March.		
				Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1 2 3 4 5 6 7	Western ...	Burdwan	Burdwan	995,818	1,088,927	2,084,745	11	5	16	5	3	8	10	11	20
Bankora			281,890	285,083	566,973	1	1	2	1	1	2	2	2	4	
Beerbhoom			334,550	341,871	676,421	1	1	2	1	1	2	2	2	4	
Midnapore			1,257,194	1,283,789	2,540,983	36	28	64	27	39	66	59	118	137	
Hoochly			173,402	190,143	363,545	...	...	...	...	...	...	...	...	...
Senampore			183,022	200,842	383,864	...	...	...	...	...	...	...	...	...
Howrah			366,342	374,715	741,057	6	1	7	6	1	7	23	6	29	
		Total ...		3,572,108	3,714,849	7,286,957	58	80	138	50	87	137	77	163	
8 9 10 11	Central ...	Presidency ...	24-Pergunnahs	1,008,090	948,107	1,956,197	9	12	21	10	8	18	26	18	
Nudda			877,125	985,870	1,862,995	1	1	2	1	1	2	4	3	3	
Jessore			1,051,128	1,023,895	2,075,023	9	4	13	4	8	12	12	9	21	
Moorsshedabad			643,535	708,291	1,351,826	5	11	16	15	9	22	12	24	36	
			Total ...	3,578,616	3,615,963	7,194,579	24	27	51	28	28	56	63	61	
12 13 14 15 16 17 18 19	Central ...	Rajshahye and Cooch Behar.	Dinapore	778,481	725,493	1,503,974	3	2	5	1	1	2	1	1	
Maidah			331,087	345,339	676,426	13	7	20	9	8	17	10	11		
Rajshahye			850,686	800,145	1,650,831	1	5	6	4	5	14	2	2		
Bungpore			1,005,028	1,054,946	2,159,974	...	1	1	...	...	...	...	...
Bogra			347,864	341,601	689,465	1	...	1	...	...	...	...	...
Pubna			602,514	609,080	1,211,594	...	...	...	...	...	...	...	...
Darjeeling			53,057	41,555	94,612	4	1	5	...	...	...	...	...
		Total ...		4,073,458	3,980,031	8,053,489	21	14	35	20	14	34	19		
20 21 22 23 24	Eastern ...	Dacca ...	Dacca	905,775	947,218	1,852,993	...	1	1	2	1	3	6	2	
Furzedpore			743,344	772,477	1,515,821	5	...	5	2	1	3	4	...		
Backergunge			958,747	915,454	1,874,201	6	...	6	7	26	33	9	...		
Mymensingh			1,187,962	1,165,885	2,353,847	1	...	1	6	1	7	2	...		
Tipperah			782,391	781,540	1,563,931	...	...	...	4	3	7	6	...	
			Total ...	4,678,219	4,548,644	9,226,863	14	1	15	24	32	55	27		
25 26	Eastern ...	Chittagong ...	Chittagong	532,059	591,343	1,123,402	4	1	5	3	1	4	7		
Noakhally			392,067	351,897	743,964	2	...	2	1	1	2	11	4		

No. VII.

the Lower Provinces during each month of the year 1875.

April.			May.			June.			July.			August.			September.			October.			November.			December.			Total.				
Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
8	9	17	7	1	8	1	2	3	...	2	2	4	6	10	5	6	11	1	...	1	6	2	8	...	...	67	47	114	
2	5	7	5	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	16	29	
18	15	33	14	9	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67	133	200	
16	6	22	4	3	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	183	394	577	
2	4	6	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58	43	101	
1	2	3	3	4	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	7	20	
15	4	19	6	4	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	73	28	101	
62	45	107	41	21	62	30	48	78	21	15	36	25	26	51	18	14	32	19	14	33	45	24	69	45	38	83	500	391	891		
25	21	46	17	12	29	14	5	19	11	...	11	3	...	3	2	3	5	1	...	1	2	2	2	2	1	3	120	82	202		
2	3	5	4	5	11	2	5	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	27	45	
21	11	32	9	5	14	5	3	8	8	8	11	4	1	5	6	2	8	2	2	4	...	...	...	...	...	1	80	40	120
25	11	36	4	6	10	3	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	72	63	135	
73	40	113	34	30	64	24	14	38	28	3	31	10	2	12	8	5	13	3	4	7	3	7	10	2	4	6	200	221	611		
4	3	7	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15	8	23	
14	5	19	12	11	23	5	2	7	1	3	4	5	2	7	1	...	1	6	4	10	6	8	14	1	...	82	61	143			
3	2	5	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	12	31	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1	7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	24	45
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	9	17
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2
27	12	39	21	20	41	10	7	17	1	3	4	6	3	9	2	3	5	8	5	13	10	9	19	6	5	11	151	117	268		
7	6	13	7	2	9	1	6	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	27	20	47
4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	29	30
10	1	11	26	7	33	4	2	6	3	4	7	1	5	6	1	3	3	...	...	...	...	...	...	...	...	...	38	74	112
6	4	10	6	3	9	2	1	3	6	3	9	4	2	6	1	3	4	...	...	...	...	...	...	...	...	...	2	36	20
6	5	11	7	5	12	2	1	3	3	4	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	43	42	85
33	16	49	48	20	68	11	11	22	14	11	25	10	3	13	2	7	9	2	...	2	14	23	37	30	24	54	228	163	391		
9	2	11	1	4	5	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	23	52
18	12	30	10	6	16	1	3	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	61	41	102
27	14	41	11	10	21	2	4	6	6	2	8	4	8	12	1	2	3	4	7	11	2	4	3	5	1	6	90	64	154		
31	25	56	20	21	41	12	14	26	12	11	23	3	3	6	1	...	1	1	...	1	3	...	3	3	3	6	100	66	202		
23	38	61	15	8	23	16	15	31	8	13	21	15	10	25	2	...	2	2	...	2	1	3	...	...	...	...	114	111	225
8	17	25	6	5	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	43	28
21	17	38	10	11	21	8	3	11	7	4	11	3	...	3	6	1	7	...	...	...	...	...	...	...	...	...	83	78	156
39	28	67	20	12	32	16	8	24	8	4	12	9	15	24	15	4	19	4	4	8	1	3	5	8	14	97	97	230			
9	18	27	13	3	16	5	6	10	5	2	7	1	2	3	1	3	4	...	...	...	...	...	...	...	...	...	50	44	94
4	3	7	7	7	14	3	3	6	6	4	10	3	2	5	...	...	...	...	...	...	...	...	...	...	...	...	11	47	88
135	138	273	91	67	158	60	49	109	53	40	93	40	32	72	26	8	34	7	5	12	16	14	30	21	29	50	585	485	1,070		
27	48	75	30	32	62	52	21	73	31	15	46	5	5	10	45	223	150	373	
10	8	18	10	10	20	9	2	11	2	2	4	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	38	38	76
13	7	20	21	19	40	6	2	8	8	6	14	1	2	3	2	3	5	...	...	...	...	...	...	...	...	...	104	78	182
8	9	17	30	18	48	30	9	39	11	5	16	3	2	5	3	154	94	248	
58	72	130	91	79	170	97	34	131	52	28	80	10	9	19	7	10	17	10	5	15	6	4	10	52	10	...	510	360	870		
16	16	32	5	9	14	7	2	9	8	4	12	1	6	7	3	1	4	
8	8	16	7	4	11	4	0	10	8	1	9	4	5	9	7	6	8	
7	18	25	6	9	15	6	0	15	1	8	9	10	8	18	15	6	21	7	3	10	6	7	13	23	11	34	120	116	236		
20	42	62	18	22	40	17	17	34	12	13	25	16	18	32	21	12	33	9	5	14	10	12	28	42	31	73	290	293	583		
5	2	7	1	6	7	2	8	10	1	1	2	1	2	
11	5	16	23	17	40	17	18	35	11	9	20	6	2	8	3	3	6	2	
...
...
17	11	28	29	27	56	21	30	51	15	15	30	15	8	23	4	3	7	2	5	6	2	1	3	5	5	10	145	146	291		
428	399	827	384	298	682	272	214	486	202	130	332	136	107	243	89	64	153	64	48	112	114	95	209	208	147	355	2,804	2,240	5,044		
'01	'01	'01	'01	'009	'01	'009	'007	'008	'006	'004	'005	'004	'003	'004	'002	'002	'002	'002	'001	'001	'003	'003	'003	'006	'004	'005	'09	'07	'08		

J. M. COATES, M.D.,
Sanitary Commissioner for Bengal.

MEDICAL.

CALCUTTA, THE 12TH JANUARY 1877.

RESOLUTION.

READ—

The Report by the Surgeon-General, Indian Medical Department, on Vaccination in the Lower Provinces of Bengal during the year 1875-76.

Read again—

The Report for 1874-75, with the orders of Government passed thereon.

The steady advance which has been made in extending to the inhabitants of these provinces the benefits of vaccination was noticed with satisfaction in the review of the report on the administration of the department for the year 1874-75. Further progress has been again made during the past year, and the results achieved continue to afford just grounds for encouragement in the future. It is estimated by the Surgeon-General that, to equal the birth-rate in these provinces, not less than 2,040,000 persons should be annually vaccinated. In the past year the number actually so protected was somewhat less than one-half of this estimate. Though still far short of what is required, the general outturn of work is not unsatisfactory.

2. The number of persons vaccinated by the staff of Government vaccinators in the various circles of superintendence, and by vaccinators working under the supervision of the civil surgeons of districts, during the past four years is shown in the following comparative table :—

	1875-76	1874-75.	1873-74.	1872-73
Calcutta and Suburbs	40,173	41,360	38,706	31,463
Metropolitan Circles	471,856	442,385	306,676	267,074
Darjeeling Circle	136,905	120,609	97,757	106,399
Ranchhee	13,818	27,548	37,411	36,518
Sonthal Pergunnahs	30,308	22,867	15,089	11,071
Eastern Bengal Circle	98,840	110,900	78,491	67,549
Orissa Circle	1,383			" "
Behar	4,528			" "
Dispensary vaccination	193,339	234,159	217,464	187,312
Total	988,858	959,873	791,634	687,406

3. It appears that while, as in the previous year, the Metropolitan, Darjeeling, and Sonthal Pergunnahs Circles continue to show a large increase in the annual outturn of work, the Ranchhee Circle, where in the previous year a very marked falling off was observable, is again conspicuous for a large decrease in the number of persons vaccinated. Though the work performed in the Eastern Bengal Circle was less than in the previous year, it was still considerably in excess of the recorded results of 1872-73 and the following year. In the Calcutta Circle there was a similar temporary decrease observable. As regards what is called "Dispensary vaccination," the figures given show a very marked falling off, and the standard of 1872-73 has been little more than maintained.

4. In the course of the past year two new circles of superintendence were opened out—one in Behar, and the other in Orissa. The results obtained, especially in the circle last named, have as yet been insignificant. This is attributable to the fact that the season for vaccination had partly passed away before the new establishments could be organized. In the circles established in previous years no material change was made in the sanctioned agency. It must be admitted that operations were carried on in the Sonthal

Pergunnahs in the face of much difficulty, as little more than half the number of the vaccinators required could be obtained. In the Darjeeling and Eastern Bengal Circles also difficulty was experienced in keeping the establishments up to the sanctioned strength.

5. With the exception of the results in the Ranchee Circle, the high character of the work performed in the different circles, as established in previous years, was fully maintained. The general ratio per cent. of successful cases in primary vaccination was 97·2 per cent. against 96·53 in 1874-75, and 96·18 in 1873-74. In the Calcutta, Eastern Bengal, and Metropolitan Circles the ratio was over 99 per cent. Opportunity has been frequently taken of testing these figures with the result of establishing their accuracy. There is always a difficulty, however, in regard to figures relating to dispensary vaccination. They are not probably altogether trustworthy; still, so far as opportunities have been taken of testing the character of the work done, the results have not been unfavourable, and the greater attention which the matter is now receiving will eventually, it is hoped, result in greater accuracy in the returns.

6. Judged by the number of operations performed by each vaccinator on an average, there seems to have been an improvement in the efficiency of the establishments employed in all the circles, the Eastern Bengal and Ranchee Circles excepted. In the Ranchee Circle the falling off has been as marked as the improvement in the Sonthal Pergunnahs. For the former result the Superintendent, Surgeon J. Wood, is responsible. The Lieutenant-Governor gathers from the report that no sufficient nor satisfactory explanation has been given by the Superintendent of his failure, and that he is not free from blame in the matter. In the Sonthal Pergunnahs the Native Deputy Superintendent deserves great credit for the results achieved under unfavourable circumstances.

7. Of the whole number of persons recorded to have been vaccinated during the year, details as to caste, sex, and age have not been noted in respect of about one-fourth. Of the remaining three-fourths, it is reported that 4·75 per cent. were females against 52·5 per cent. males; 54·16 per cent. Hindoos against 42·06 per cent. Mussulmans; and 7 per cent. under one year of age against 93 per cent. over one year. Comparing these with the corresponding results for 1874-75, there has been a slight improvement in the proportion of females vaccinated, and a slight falling off in infant vaccination. The figures disclose no change worthy of remark in the proportion of people belonging to the different castes who have submitted to vaccination; but from several passages in the report, it is to be gathered that there has been less difficulty than heretofore in persuading the people to adopt vaccination, and that the prejudice in favor of inoculation is gradually passing away.

8. In table C appended to his report, the Surgeon-General gives the number of persons, as abstracted in the margin, who were operated upon by vaccinators paid by Government, by Municipalities, and from Local Funds, &c. It is true that we have not yet any complete returns showing the amount of work done by private practitioners; still it is evident that a

Government	747,429
Municipal	59,489
Local Funds	8,000
Native States	1,425
Dispensaries	5,438
Ex-inoculators	168,567

very undue share of the cost of vaccination continues to fall on Government. The comparatively small number of operations performed by municipal vaccinators, and the smallness of the sums devoted by municipalities to their support, has lately attracted the special attention of Government, and separate instructions on the subject have been issued to district officers. The Lieutenant-Governor cannot but view with dissatisfaction the small number of operations performed by dispensary vaccinators. It is the duty of every medical officer in charge of a dispensary to promote vaccination, and the apparent general neglect of this part of their duty should engage the attention of the Surgeon-General.

9. The aggregate cost of vaccination during the past year, as shown in the report, was Rs. 1,05,800, of which Government contributed Rs. 96,629, the

balance being defrayed by municipalities and from local sources. In the previous year the corresponding figures were Rs. 92,413 contributed by the State out of a total expenditure of Rs. 1,02,069. It therefore appears that the local contributions amounted to Rs. 9,171 only in the past year, against Rs. 9,656 in the previous year. This result is not satisfactory. An increase of Rs. 3,731 in the total expenditure falling upon the Government, is attributable to the opening of the two new circles above referred to.

10. The average cost of each successful case of vaccination during the past year was one anna ten pies, or precisely the same as in the previous year. In the Darjeeling, Metropolitan, and Eastern Bengal Circles, however, there was a sensible reduction in the average cost, while in the Ranchee Circle the cost was nearly double that of the previous year.

11. In reviewing in detail the progress of vaccination in the different circles of superintendence, the Surgeon-General remarks that in Calcutta and its Suburbs the character of the work done remained as high as ever; that Dr. Charles continued to apply himself with his usual devotion to his work; and that he and his establishment have achieved a splendid success. In the Metropolitan Circle operations were chiefly carried on in the Jessore district. The system pursued, as described, being "continuous systematic progress by gangs under close inspection, and the exhaustive protection of definite areas radiating from a centre." The proceedings have therefore been entirely in accordance with the orders of Government on the subject, which prescribe the concentration of operations. The results are said to have been very satisfactory and exceedingly creditable to Dr. Gupta and his assistants Rai Jadub Chunder Ghose Bahadoor, Rai Ramsoonder Ghose Bahadoor, and Buddy Nath Brummo. A similarly favourable report is given of the work done in the Darjeeling Circle. There, it is said, "the old desultory plan of scattering small gangs of vaccinators in several districts has been abandoned, and operations were concentrated in the district of Bogra, and the conterminous thanas of the surrounding districts." Much credit is also said to be due to Dr. Lidderdale for the energy and thoroughness with which he applies himself to his duties, and for the decided success he has secured in the face of much difficulty. In the Eastern Bengal Circle operations were concentrated in the district of Furreedpore. There was some falling off in the amount of work done, but this is explained satisfactorily. In the Sonthal Pergunnahs operations were confined to the sub-divisions of Rajmehal and Godda. The frequency of outbreaks of small-pox in various parts of the pergunnahs is, however, said to have interfered much with systematic vaccination. In the Ranchee Circle operations were commenced late. The plan of operations seems to have been ill-devised, and the results obtained have been anything but satisfactory.

12. As it is not intended that the circle establishments should be a permanent burden on the resources of the State, the importance of training up men who shall eventually enter upon independent practice as vaccinators has been frequently pressed upon the attention of all medical officers. In the Resolution on the report for 1874-75, the Lieutenant-Governor reviewed what had been done with the object of inducing inoculators to take to vaccination. In furtherance of the instructions which it was then noted had been issued on the subject, a grant of Rs. 6,000 was made from the savings in the budget of the year, with a view chiefly to provide a staff of inspectors who should control the working of ex-inoculators, to maintain a certain number of apprentices while under tuition, and to admit of rewards being given to those practitioners who showed a good outturn of work. The result of these measures has been separately reported by the Surgeon-General. The Lieutenant-Governor wishes, however, that in future a section of the annual report may be devoted to the subject, in order that its importance may not be lost sight of.

13. The results of the experiment are reported to have been as follows in the districts in which it was tried. In Midnapore three inspecting vaccinators were entertained, and twenty-six apprentices were placed under

training. 39,045 persons were vaccinated, and at the close of the year ten of the apprentices were discharged with certificates of qualification to practise. In Bankoora five inspecting and head vaccinators were entertained, who supervised the operations of seventy-four ex-inoculators already at work in this district. In all 37,435 persons were vaccinated, and a very large proportion of the cases were successful. In Manbhoom, similarly, seventy-five ex-inoculators were at work under inspection and vaccinated 26,872 persons; the percentage of successful cases was not, however, so good as in Bankoora. In Singbhoom fourteen ex-inoculators vaccinated 2,235 persons. In the Sonthal Pergunnahs two apprentices were trained, and seventy-five ex-inoculators vaccinated 57,722 persons. In the Bhagulpore district three ex-inoculators vaccinated 3,973 persons. In Monghyr ten apprentices were placed under training, five of whom finally obtained certificates of competency. One hundred and ninety ex-inoculators are also said to have been employed, who vaccinated 21,063 persons. In Chumparun forty-nine ex-inoculators vaccinated 2,123 children. These results are encouraging. It is unfortunately clear, however, that all the civil surgeons concerned have not taken the same amount of interest in the matter. Bhagulpore, situated between the Sonthal Pergunnahs and Monghyr (where the scheme, ably and intelligently worked, has met with signal success), is conspicuous for comparative failure. That the civil surgeon is not blameless in the matter is apparent from the fact that he does not appear to have put any apprentices under training. The same remark applies to the Civil Surgeon of Singbhoom, where the percentage of successful cases was unusually small. In Midnapore and Bankoora the success attained is in consonance with the results achieved in previous years by civil surgeons who have exhibited a real interest in their work.

14. Briefly stated, the result of the experiment was this, that in eight districts no less than 178,032 persons were successfully vaccinated at an aggregate cost to Government of Rs. 3,311 only, or on the average at a cost of just one quarter of an anna per case. As noted above, these results do not at all represent what might have been achieved had all the officers worked with equal zeal and interest.

15. The conclusion to which the Lieutenant-Governor has arrived on the whole question is that the time has now arrived when he must make it distinctly understood that where districts have been once gone over and thoroughly protected by the circle establishments, the civil surgeons of districts must be held responsible for organizing establishments of independent practitioners with a view to maintain vaccination in the protected areas. There are many districts, chiefly those in the neighbourhood of the metropolis, where there can be no excuse for not now making vaccination self-supporting. Inoculation has been prohibited, and the people are said to be willing to receive vaccination. The Lieutenant-Governor therefore requests that the Surgeon-General will report which districts he would now recommend should be formally withdrawn from the vaccination circles and made over to the exclusive care of the civil surgeons. There are other districts also where, although the ground has not yet been gone over by circle vaccinators, it is plain that, by energy and perseverance, much might be done by the civil surgeons. Pubna is among this number.

16. It is noticeable that frequent complaints appear to have been made of the character of the lymph supplied. It is not stated where this was procured in every case, but generally it would seem to have been sent from Calcutta. It is absolutely necessary that every possible care should be taken that all establishments in the mofussil are supplied with an ample stock of lymph, and that this should be of undoubtedly good quality. The Lieutenant-Governor wishes to be informed in future what measures have been taken with a view to maintain a proper supply of lymph, and in particular as to whether satisfactory arrangements could not be made for supplying all other districts from Darjeeling.

17. In conclusion, the Lieutenant-Governor desires that the thanks of Government may be conveyed to the officers named in the margin for the zealous and efficient manner in which their duties have been conducted. To Dr. Beatson himself the Lieutenant-Governor's thanks are due for the assistance rendered by him throughout the year in the administration of all matters relating to vaccination, and for the clear and concise report which he has compiled on the subject.

Dr. Charles, Calcutta.
" Gupta, Metropolitan Circle.
" Lidderdale, Darjeeling Circle.
" Nicholson, Monghyr.
" Wilson, Manbhoom.
" Conolly, Bankoora.
Baboo Mothoora Nath Sen, Sonthal
Pergunnahs.
Bai Jadub Chunder Ghose Bahadoor,
Metropolitan Circle.

By order of the Lieutenant-Governor of Bengal,

R. L. MANGLES,

Offg. Secy. to the Govt. of Bengal.

No. 127.

Copy forwarded to the Surgeon-General, Indian Medical Department, for information and guidance.

By order of the Lieutenant-Governor of Bengal,

J. CRAWFURD,

Under-Secy. to the Govt. of Bengal.

CALCUTTA,
The 12th January 1877.



REPORT

ON

VACCINATION

IN THE

PROVINCE OF BENGAL

FOR THE YEAR ENDING 31st MARCH

1877.

BY

J. FULLARTON BEATSON, Esq., M.D.,

Surgeon-General, Indian Medical Department.

Calcutta:

PRINTED AT THE BENGAL SECRETARIAT PRESS.

1877.

FROM THE SURGEON-GENERAL, INDIAN MEDICAL DEPARTMENT,

TO THE SECRETARY TO THE GOVERNMENT OF BENGAL,

JUDICIAL DEPARTMENT.

Fort William, the 18th September 1877

SIR,

I HAVE the honor to submit the reports and returns of vaccination in the province of Bengal for the year ending the 31st March 1877. This report has been compiled from the reports and returns submitted by the Superintendents of the various vaccine circles, and an abstract of the reports rendered by civil surgeons has also been given in a separate appendix

2. *Agency*.—The comparative statement (No. I) given in the margin shows that the Agency

STATEMENT No. I.

CIRCLES	1876-77						1875-76					
	Superintendent-General	Superintendents	Deputy Superintendents	Native Superintendents	Head vaccinators	Vaccinators	Apprentices	Ex-inoculators	Superintendent-General	Superintendents	Deputy Superintendents	Native Superintendents
Calcutta and Suburbs	1	1	2	6	25	24	..	1	1	2	6	25
Metropolitan Circles	1	1	3	12	78	24	..	1	1	3	12	78
Darjeeling Circle	1	1	7	64	45	30	..	1	1	7	64	45
Ranchee do	1	1	3	20	18	..	..	1	1	3	20	18
Sonthal Pergunnahs Circle	..	1	1	8	24	9	..	1	1	1	8	24
Eastern Bengal Circle	..	1	1	6	21	9	..	1	1	1	6	21
Orissa Circle	..	1	1	6	21	9	..	1	1	1	6	21
Behar do	..	1	1	6	21	9	..	1	1	1	6	21
Dispensary self-supporting vaccination	..	..	..	6	21	9	1,000	..	..	..	6	21
Total	1	6	7	10	45	107	1,000	1	6	7	11	33

a 21 employed.
b 3 Inspectors
c 10 employed.

d 48 employed
e 4 ditto
f 25 ditto

superintending agency remained almost unaltered as regards strength, the only change being the abolition of the post of one Native Superintendent. The executive agency was increased last year by 12 head vaccinators, 63 vaccinators, 11 apprentices, and 409 ex-inoculators or independent practitioners. This large increase in the number of self-supporting vaccinators is very satisfactory, so long as the inspecting agency can exercise a strict and efficient supervision.

3. *Operations*.—The total number of operations performed

STATEMENT No. II.

CIRCLES	TOTAL NUMBER VACCINATED		DIFFERENCE	
	1876-77	1875-76	Increase	Decrease
Calcutta and Suburbs	37,472	40,173	..	2,701
Metropolitan Circles	521,950	571,856	50,094	..
Darjeeling Circle	330,218	186,905	143,313	..
Ranchee do	50,442	13,818	36,624	..
Sonthal Pergunnahs Circle	42,823	30,306	12,516	..
Eastern Bengal Circle	140,534	96,840	43,694	..
Orissa Circle	24,868	1,293	23,575	..
Behar do	11,421	4,828	7,593	..
Dispensary vaccination	340,305	290,854	49,451	..
Total	1,509,034	1,086,373	422,662	2,701

and the dispensaries and self-supporting vaccination, 22 5 per cent The total number of

during the year is shown in statement No. II, and contrasted with that of the preceding year.

All the circles show considerable increase, excepting Calcutta, which exhibits a decrease of 2,701 cases. The falling off in Calcutta will be fully explained in my remarks on that circle. The net increase has, therefore, been 422,662. Of the total number of operations, the circles contributed 1,168,729, or about 77 5 per cent.,

vaccinations has now exceeded one million and a half, but still falls short by 430,966 of the requisite number which it is necessary to protect, viz 2,040,000—a number which we obtain by taking the birth-rate at 30 per 1,000 and the population at 68 millions in the whole province of Bengal Last year we had not protected even one half of the requisite number, so the progress made during the year has been very satisfactory

Successful operations

4 *Successful operations*—These are shown in detail in table A in the appendix, and the ratios of success in primary and secondary cases in statement No III

STATEMENT No III

(Circles)	RATIO PERCENT OF SUCCESSFUL CASES			
	In primary vaccination		In secondary vaccination	
	1876-77	1875-76	1876-77	1875-76
Calcutta and Suburbs	90.0	90.87	18.28	17.89
Metropolitan Circles	90.4	90.8		12.91
Darjeeling Circle	99.4	97.1	64.16	78.76
Ranchhee do	1.6	8.47		
Sonthal Pergunnah Circle	9.36	18.7	61.68	
Eastern Bengal Circle	97.78	9.7	75	41.08
Orissa Circle	98.1	104.11		
Behar do	97.71	87.45	17.39	27.77
Dispensary vaccination	94.1	9.31	70.31	70.44
Total	98.18	97.2	40.88	21.43

Out of 1,492,373 'primary' vaccinations, including 5,903 'repetition' cases 1,453,630 were successful, or 98.18 per cent, and out of 22,564 're vaccinations, only 4,656, or 20.68 per cent, were successful It will be observed that the Calcutta, Metropolitan, and Eastern Bengal circles maintain their high percentages, while the remaining circles, as well as dispensaries, have all improved their rates The provincial total is

thus better than last year's The ratio of 'secondary' or re-vaccination has again declined by 81 per cent

Number of operations performed by each vaccinator

5 *The number of operations performed by each vaccinator*

STATEMENT No IV

(Circles)	Number of operations performed	
	1876-77	1875-76
Metropolitan Circles	5,117.1	4,609
Ranchhee Circle	26.4	890
Darjeeling do	25.0	1,850
Sonthal Pergunnahs Circle	2,379	2,331
Eastern Bengal Circle	2,186	1,200
Calcutta and Suburbs	1,784	1,913
Orissa Circle	829	68
Behar do	336	270

This is shown in statement No IV The Metropolitan circles still maintain the first place, the Ranchhee circle has made a great advance and occupies the second place in the list, while the Darjeeling, Eastern Bengal, and Orissa circles also show considerable improvement The figure for Darjeeling would stand higher if the number and work of licensed vaccinators were excluded from the calculation The remaining circles, viz Sonthal Pergunnahs and Behar, exhibit a slight improvement, while Calcutta's average has declined owing to the falling off of work

Sex of the vaccinated

6 *Sex of the vaccinated*—The sex is registered of 1,147,729 persons, of whom

STATEMENT No V

CIRCLES	1876 7		1875 6	
	PERCENTAGE OF			
	Males	Females	Males	Females
Calcutta and Suburbs	57.87	44.15	54.71	45.28
Metropolitan Circles	51.7	46.21	52.88	47.11
Darjeeling Circle	5.15	47.94	53.13	46.86
Ranchhee do	49.73	50.91	46.07	53.92
Sonthal Pergunnahs Circle	51.21	48.79	51.76	48.24
Eastern Bengal Circle	40.3	54.08	50.8	49.21
Orissa Circle	55	44.99	52.51	47.49
Behar do	57.95	42.04	51.23	48.77
Dispensary vaccination	56.11	43.88	57.07	42.92

603,049 were males and 541,880 were females, or 52.5 and 47.5 respectively The ratios are identical with last year's figures Dispensary vaccination shows an improvement in the proportion of females, and stands higher in this respect than the Behar circle Males preponderate in every circle except in Ranchhee and Eastern Bengal The Behar circle shows the

highest proportion of males and the lowest ratio of females, the former having risen, and the latter declined very considerably, as compared with the previous year The proportion of females has slightly declined in Calcutta and also in the Metropolitan circles, while in the Behar and Orissa circles it has fallen off considerably In the Darjeeling circle the proportion of females has slightly risen, while in Eastern Bengal it has increased to such an extent as to exceed the ratio of males The figures in the Ranchhee and Sonthal Pergunnahs circles remain much the same as in the preceding year The preponderance of females over males in Ranchhee is thus explained by Dr Roy he says that as the people attach less value to female children, they produce all their girls for vaccination, while they conceal some of their male children

7. *Caste of the vaccinated.*—This is noted of 1,147,929 persons, of whom 2,147 were Christians, 579,106 Hindoos, 522,353 Mussulmans, and 44,323 “other castes,” giving relative proportions of 18, 50·4, 45·3, and 3·8 respectively. The corresponding ratios of the previous year were 18, 54·16, 42·06, and 3·46. The relative number of Mussulmans has risen and that of Hindoos has declined; while those of Christians and “other castes” remain much the same as in 1875-76. The higher ratio of Christians in Calcutta needs no explanation. The figures in statement No. VI as shown against the circles will be found to accord fairly when compared with the results obtained in the census of 1872. Hindoos preponderate in the Calcutta, Metropolitan, Ranchee, Orissa, and Behar circles, as well as in the dispensaries. On the other hand, Darjeeling and Eastern Bengal show a preponderance of Mussulmans. The Sonthal Pergunnahs show a large proportion of other castes—*v. Sonthaleos*

STATEMENT No. VI.

CIRCLES	1876-77				1875-76			
	PERCENTAGE OF							
	Christians.	Hindoo.	Mussulmans.	Other castes.	Christians.	Hindoo.	Mussulmans.	Other castes.
Calcutta and Suburbs	2 58	69 60	27 95		2 18	71 5	26 14	
Metropolitan Circles	17	64 46	33 36		18	67 08	32 73	
Darjeeling Circle	01	22 19	75 28	2 04	03	19 71	75 67	4 58
Ranchee do	02	80 57	9 7	8 7	01	81 06	7 45	10 87
Sonthal Pergunnahs Circle	27	15 99	4 26	79 47	19	28 64	8 51	62 71
Eastern Bengal Circle	51	12 11	57 44	01		40 07	59 93	
Orissa Circle	05	15 52	4 42		2 1	89 1	8 5	
Behar do	07	88 02	11 9		25	81 9	17 84	
Dispensary vaccination	47	67 84	14	17 68	1 11	68 84	22 81	7 24

Caste of the vaccinated

8 *Age of the vaccinated.*—The age is recorded in 1,147,929 cases, of which 82,786 were under and 1,065,143 above one year, or 7·2 and 92·8 respectively, against 7 and 93 in the previous year. There was thus an improvement in infant vaccination, which is comparatively always limited. This is attributed to the prejudices of the people, who, from their experience of the risks of inoculation, are always averse to have their infants vaccinated. All the circles, however, except Ranchoe and Behar, show an appreciable improvement in the

STATEMENT No. VII.

CIRCLES	1876-77		1875-76	
	PERCENTAGE			
	Under one year	Above one year	Under one year	Above one year
Calcutta and suburbs	22.61	77.39	20.88	79.12
Metropolitan	7.66	92.33	6.5	93.5
Darjeeling	5.37	94.62	5.93	94.06
Ranches	3.22	96.77	8.31	91.68
Sonthal Pergunnahs	12.07	87.92	11.61	88.35
Eastern Bengal	7.14	92.86	5.47	94.52
Orissa	7.74	92.25	4.4	95.6
Behar	11.8	88.2	12.92	87.08
Dispensary vaccination	15.46	84.54	13.2	86.8

Age of the vaccinated

proportion of children vaccinated under one year. As usual, Calcutta stands at the head of the scale of infant vaccination. Dispensary vaccination comes next, but the figures are probably less to be relied on. Sonthal Pergunnahs and Behar stand third and fourth respectively in the list, while the Metropolitan, Orissa, and Eastern Bengal are nearly equal. There was a marked falling off in the Ranchoe circle, which occupies this year the lowest place in the scale of infant vaccination. It is to be hoped that with the progress of enlightenment and civilisation, infant vaccination will become more popular throughout Bengal.

9 *Cost of vaccination.*—The aggregate cost of vaccination, as shown in table A, was Rs. 1,18,731-4-9, against Rs. 1,05,800-9-11—an increase of Rs. 12,930-10-10, due to the maintenance of two new circles throughout the year instead of during three months only, as in 1875-76, and also to the extension of self-supporting vaccination, by the training of apprentices, and the appointment of vaccine inspectors.

STATEMENT No. VIII.

CIRCLES.	Average cost of each successful case	
	1876-77	1875-76.
	Rs. A. P.	Rs. A. P.
Calcutta and Suburbs	0 8 6	0 7 2
Metropolitan	0 1 2	0 1 3
Darjeeling	0 1 0	0 2 3
Ranchoe	0 2 11	0 14 6
Sonthal Pergunnahs	0 1 6	0 2 1
Eastern Bengal	0 1 3	0 1 10
Orissa	0 3 3	1 5 10
Behar	0 7 9	0 6 3
Dispensary vaccination	0 0 8	0 1 1
Average	0 1 3	0 1 10

Cost of vaccination

The cost to Government was Rs. 1,07,657-4-9, or 90 per cent, and the remaining 10 per cent was paid by municipalities and local sources. The circles cost Government Rs. 1,00,534-4-9, as shown in table III, which fell within the sanctioned amount by over Rs. 10,000. In making these calculations, the amount paid to the Calcutta circle by the town and Suburban Municipalities, viz. Rs. 3,708, has been deducted from the figures given in

and Suburban Municipalities, viz. Rs. 3,708, has been deducted from the figures given in

table III. All the circles have managed to keep within the expenditure sanctioned by Government. The average cost of each successful case was Re. 0-1-3, against Re. 0-1-10 in the previous year, showing a diminution of seven pies. In all the circles except Calcutta and Behar the average cost has fallen—notably in those of Orissa and Ranchee. Dispensary vaccination shows the lowest figure, while Darjeeling comes next; but the figure can hardly be correct, as the work of the licensed vaccinators has been improperly taken into account in calculating the cost. The slight rise in the average cost of Calcutta is due to the falling off in the number of vaccinations; while in Behar it is attributed to the circle having existed for twelve months instead of three months, as in 1875-76. But if there had been more work, the cost would have fallen, and not risen over that of the previous season.

10 I shall now give a summary of the reports of the various vaccine circles submitted by the Superintendents, with extracts here and there; and first of all I shall begin with the Presidency vaccine department.

Presidency vaccine
establishment

11. *Presidency vaccine establishment.*—Dr. T. Edmonstone Charles, who had the general superintendence of this circle, has submitted a report which displays most fully energy in the general supervision, and the minutest attention to every detail.

12. The two assistant-surgeons who had been in the middle of the previous season appointed to the charge of the north and south divisions of the town, including the suburbs, remain unchanged. Baboos Ram Chunder Mitter and Ashutosh Gupta are now reported to have mastered their duties and to have made themselves useful in stamping out small-pox, and in exercising proper control over the work of their subordinates. No changes occurred among the vaccinators, with the exception of two deaths from among their number.

Number
vaccinated

13. The number vaccinated by the Presidency vaccine establishment during the year was 37,472, against 40,173 in 1875-76, showing a decrease of 2,701. Out of this decrease, 1,665 were among the non-resident emigrants and 1,036 among the permanent population. The falling off among the former is accounted for by diminished emigration, while in the latter class the diminution is thus explained by Dr. Charles. The decrease among the resident population is 1,036; of this number, 414 is accounted for by the falling off in the number of re-vaccinations. The prevalence of small-pox frightens people, and then they rush for re-vaccination. Last year there were fewer cases of small-pox in Calcutta than in the previous season, and hence the falling off in the number of re-vaccinations. The decrease in primary vaccinations was 622, and this is satisfactorily explained by an epidemic of measles during the months of February and March, which interfered with the vaccination of the better classes of people; the months of February and March being regarded by them as most propitious for vaccination.

The character of vaccination was high, though Dr. Charles was once dissatisfied with the result of his inspection after the rains, and had to comment on the character of the virus. The consequence was that his establishment took more pains and attained the former excellence which had always characterized the vaccinations at the Presidency. In connection with this incident Dr. Charles makes some very important remarks, showing the indispensable necessity of systematic and careful inspection, as without it the best operators were apt to grow careless and indifferent. The percentage of successful operations was over 99. *Appropos* of this subject, he shows by tabular statements how the percentage rose steadily from 91 in 1860 to 98.76 in 1868. Since the last-named year the vaccinations done in the mofussil have been recorded separately from those in Calcutta, and the percentages attained by the Presidency and Metropolitan circles, though working independently of each other, have risen to over 99. Dr. Charles, with just pride, points out that he has redeemed the pledge he gave to the Government in 1863, viz., that “as regards success, whatever can be done in England can be done in Bengal.” He also cites the names of Mr. Marson and Mr. Sheppard as the best operators in England, who have each vaccinated two thousand times without a failure, and then remarks that he has some vaccinators whom he would match against either of them.

Small-pox in
Calcutta and its
suburbs

14. Calcutta and its suburbs did not suffer much from small-pox—indeed some parts were exempt from the disease. In the north suburbs no cases were heard of, except one that was sent to the Sealdah hospital. In the north division of the town two cases occurred among the permanent population and five cases were imported from outside. In the south division 43 cases were reported, chiefly from Fenwick Bazar and Colinga thanas. Mangoe Lane, Bamun Bustee, and Hastings police thanas were altogether exempt. The cases were isolated and did not spread. The southern suburbs were singularly free from small-pox, only two cases having been reported—one from Ekbalpore thana and from Baniapooker. The deaths from small-pox in twelve months occurred as follows:—April 20, May 11, June 3, July 4, August 5, September and October none, November 1, December 4, January 6, February 9, and March 11. The registration of deaths from small-pox is generally correct; if there be any error it is in the direction of exaggeration, because it has been ascertained that deaths from measles among children are sometimes returned as due to small-pox. Experiments for preserving vaccino lymph were continued as usual, and mixtures and solutions of salicylic and boracic acids in different proportions were tried, but with no better success than what had attended previous trials with carbolic acid.

15. The results of the past season's work are extremely satisfactory, and show clearly how much excellent work can be done by an establishment which has not only kindly precepts, but energetic example to stimulate its best energies

16. *Metropolitan Circles*—Surgeon K. P. Gupta, who held the superintendence of these circles throughout the year, has submitted the report and evinced his characteristic enthusiasm in the work, by diligent and unfailing attention to every point calculated to secure good and extensive results.

Metropolitan
Circles

17. The establishment underwent no change, barring the transfer of some vaccinators to the Darjeeling circle and their replacement by trained apprentices. During the non-vaccinating months the men were employed in collecting vaccine census and also in stamping out small-pox.

18. A scheme of the season's operations was proposed by Mr Gupta, and by me submitted to Government for approval. He proposed to go over the north half of Nuddea, as well as some thanas in Burdwan, for the second time and several thanas in the south of the 24-pergunnahs for the third time. The programme being approved of, the local civil and police officers were requested to give aid. The mode of operation pursued was the same as before: the vaccinators were sent out in gangs, and contiguous thanas were assigned; in this way the "concentrated system" was rigidly carried out.

Pr gramme
embracing the
season's operations

19. Mr Gupta gives detailed accounts of the proceedings of the three circles under his superintendence. The first and second circles were chiefly employed in the northern half of Nuddea, and when the assigned thanas had been gone over, they extended their operations to the districts of Pubna and Moorshedabad respectively. The northern thanas of Nuddea are shown to have been thoroughly protected a second time, since the number of vaccinations more than exceeds the birth rate. Two thanas of Pubna and five of Moorshedabad were partially gone over. The third circle men worked chiefly in parts of Burdwan and 24-Pergunnahs, and they also extended their operations into Beerbhoom. The total number of successful operations done by the Metropolitan establishment is 5,20,860, or more than half a million. The population of the six districts comprised in these circles being nearly 10,000,000, the birth-rate at 30 per *mille* would be three lakhs, whereas the number vaccinated is over five lakhs. This must be regarded as a very satisfactory result. The character of the vaccination was as high as usual, 99.82 per cent. being successful. The average number performed by each vaccinator is 4,778, and the cost of each successful case is one anna and two pies. All these figures are very satisfactory and exceedingly creditable to the Superintendent and his establishment.

Area

Vaccination
exceeds the birth-
rate

Cost of each
successful case

20. The Superintendent details his tours of inspection to all the districts where operations were carried on last year. He commenced his inspections on 2nd September and ended them at the close of March. He visited 399 villages and saw 41,442 cases, the percentage of success verified by him being 99.89. The Deputy Superintendents were also on tour throughout the season and inspected large numbers of cases. Altogether 217,351, or about 42 per cent. of the cases were inspected by the Superintendent and his assistants. The people are said to be decidedly more favourably disposed to vaccination than before, and they frequently ask and pay for the services of vaccinators; although many people are still opposed and object to allow of virus being taken from the arms of tender children. This difficulty interferes with the progress of vaccination, and is noticed and complained of by the other Superintendents of circles.

Inspections

21. The following *paragraphs* regarding small-pox are quoted in full from Mr. Gupta's report:—

"*Small-pox.*—Fifteen reports on the outbreak of small-pox were received between 1st April 1876 and 31st March 1877; in 14 the disease was found to be small-pox, and in one chicken-pox. In the 14 outbreaks of small-pox 21 villages were affected and 184 persons were ascertained to have been attacked; of these 45 died and 149 recovered. In five, vaccination was performed round the houses in which cases occurred, and the spread of the disease was arrested; in one, vaccination was not required, the village being already protected by vaccination and inoculation; and in eight, the people refused to take vaccination. In eight the villages were protected by vaccination, in two by inoculation, and in four the villages were unprotected. In three of the 14 outbreaks the disease was traced to small-pox in one to inoculation in the Beerbhoom district, and in 10 the cause was not known. Of the persons attacked four were vaccinated, of whom none died; five were inoculated, of whom two died and three recovered; and 175 were unprotected, of whom 43 died and 132 recovered. Of the 14 outbreaks of small-pox, seven occurred in the district of 24-Pergunnahs, affecting three villages in thana Diamond Harbour; one in Nyehatty, six in Sooltanpore, one in Dabespore, one in Sonarpore, and one in Mutla. Three outbreaks took place in the district of Burdwan, affecting one village in thana Aogram, one in Bood-bood, and one in Sonamuki; one occurred in the district of Hooghly, affecting one village in thana Bullaghur; one took place in the district of Howrah, affecting two villages in thana Shampore; one was reported from Nuddea, affecting one village in thana Nowaparah; and one occurred in the district of Beerbhoom, affecting one village in thana Bolepore."

Outbreak of
small-pox

Number of
reports received.

Affected localities

Vaccine census

Vaccine census was collected by the establishment in the recess as well as during the past season. In the recess, 213,194 persons were examined in the five districts of 24-Pergunnahs, Nuddea, Howrah, Hooghly, and Burdwan, with the following result:—24·43 per cent. were vaccinated, 60·32 inoculated; 4·84 had had small-pox, while 10·34 were unprotected. The large proportion of unprotected is thus explained by Dr. Gupta. The thanas where census was taken in the recess had not been visited by vaccinators for three or four years. During the past season each vaccinator was required to take census of five villages in each thana wherein he worked; the result is given in Dr. Gupta's own words: "The seventeen thanas in the north half of Nuddea which were gone over this season, show a small percentage of unprotected, varying from 25 to 4·3. This proves that the work of protection has been as complete and thorough as possible under the circumstances. There will always be a few unprotected persons in every place, owing to several causes, viz., ignorance, prejudice, absence of some children from home during the vaccinator's visit, &c., &c. The percentage of unprotected children is almost insignificant in the southern thanas of 24-Pergunnahs. The thanas in Burdwan show a percentage of unprotected varying from 73 to 4·71 in Culna."

22 Several municipalities obtained the services of well-trained vaccinators from the Metropolitan circles and employed them for periods varying from one to six months. In this way 6,909 cases were done, of which 98 per cent. were successful.

23 Mr. Gupta reports favourably of his Deputy Superintendents and of the whole establishment. The results achieved during the past season are decidedly creditable to one and all, and are happily secured without either friction or coercion.

Darjeeling Circle
Establishment in
its full strength

24. *Darjeeling circle*—Surgeon-Major R. Lidderdale has submitted a clear and excellent report. The establishment was brought up to its full strength from October 1876. Three Native Superintendents and one head and seven ordinary vaccinators were imported from the Metropolitan circles with the object of teaching the use of lancets to the old establishment. Three vaccinators deserted and one had to be dismissed for negligence. All apprentices who were promoted to be vaccinators have been bound down under the form of contract lately issued. At the beginning of the season half of the establishment was sick: some of the vaccinators suffered severely and left for their homes on sick leave. By the middle of November the health of the men improved and they were able to work.

Area vaccinated.

25 *Plan of operations for season 1876-77, and their number.*—The whole establishment was concentrated within a small area, viz., eight and a half thanas of the Rajshahye district which had not been protected before. The country chosen was densely populated and furnished swarms of people, both old and young, for vaccination. The eight and a half thanas of Rajshahye having been completed, operations were pushed into the most southern thana of Dinapore in the month of March, and 360 villages protected. The whole of Rajshahye and Bogra, together with adjoining parts of Runpore and Dinapore, now form a protected area in the Darjeeling circle, which is only separated by the Ganges from Nuddea, a district thoroughly protected by the Metropolitan circles.

Number
vaccinated

26 Altogether 265,275 persons were operated on, of whom 261,227, or 99·10 per cent. were successfully vaccinated. The average number done by each vaccinator was 2,520 against 1,850 in the previous season. The cost to Government of each successful case was one anna and two pies only. These figures are highly satisfactory, and such success has been unprecedented in the annals of the Darjeeling circle. For the first time the number of vaccinations has exceeded the birth-rate of the Darjeeling circle, viz., 265,275 vaccinations, against 256,700 births. Now, how were such unprecedented results brought about? Dr. Lidderdale frankly and freely admits that this unusual success was due to the introduction, for the first time in his circle, of lancets for the purpose of vaccinating instead of needles, and also to the infusion of new blood. Three Native Superintendents and one head and seven ordinary vaccinators were sent by Mr. Gupta, and between the old and new men a healthy rivalry sprung up, which accounts for the immense increase both in the quantity and quality of the work. The work in the Darjeeling hills was also very satisfactory. One head vaccinator sent from the Metropolitan circles conducted the operations during the absence of Dr. Lidderdale in the plains, and protected several tea gardens which had never been done before.

Rivalry amongst
the vaccinatorsVaccination in the
Tea gardens

Inspections

27 Dr. Lidderdale was on a tour from 1st November to 4th April, and was actually able to verify 54,345 cases, i.e. more than 2½ times the number he generally inspects. This was due to the density of the population in Rajshahye, where he was able to inspect 2, 3, 4, 5, and even 600 cases in every village. Another cause was that the Superintendent had the advantage of two Government elephants, which greatly facilitated his inspections. The percentage of success in the circle returns is 99·10, while Dr. Lidderdale verified 98·86, a difference of only 24. The Superintendent deserves great credit for his systematic and laborious inspection. The Deputy Superintendent also verified 50,000 cases; he is highly spoken of by his immediate superior.

Small pox

28. Small-pox was present in various parts of the circle during the year. The station of Dinapore and four thanas in the district were affected in May and June, and prompt measures were taken to suppress the outbreaks. A mild form of small-pox appeared in 12

thanas in Rungpore. A few cases were reported from Rajshahye, Maldah, and Bogra. A Nepalese suffering from small-pox imported the disease into two villages in the Darjeeling district. Immediate isolation of the persons attacked, and vaccination of the villagers, prevented any extension of the disease. Inoculation is still practised as before in the districts to which Act IV (B.C.) of 1865 has not been introduced.

Inoculation is still practised

29. Regarding the supply of vaccine lymph, Dr. Lidderdale re-affirms his conviction that Darjeeling cannot supply the whole of Bengal; 1st, because subjects are scarce; 2nd, the Nepalese and Lepchas are most unwilling to give lymph; and 3rd, the Nepalese vaccinators cannot store up lymph in tubes, though they have been frequently shown how to do it. He says that districts north of the Ganges and west of Brahmaputra only should look to Darjeeling as their source of lymph supply.

Lymph supply

30. The past season's work is most satisfactory, reflecting the highest credit upon the Superintendent's energy and concentrated zeal, and shewing how tact, temper, and example can get excellent results from native agency.

31. *Ranchee circle.*—Dr G. C. Roy officiated as Superintendent throughout the year and has submitted a full and elaborate report of the operations in the past season. The establishment underwent several changes. Out of 23 men, two were transferred and 11 were dismissed for inefficiency and untrustworthiness. The vacancies thus caused were, with one exception, all filled up by suitable candidates. The field was taken by three Native Superintendents and 19 vaccinators.

Ranchee Circle

Change of establishment

32. The sub-division of Palamow was selected as the field of operations, inasmuch as it had always furnished the largest mortality from small-pox. It appears that Palamow had once before been selected by Dr. Wood, who sent a party of six vaccinators under one Native Superintendent to work there in season 1872-73, but they were obliged to beat a retreat as the country was very jungly and the people very obstinate and prejudiced against vaccination. No further attempt seems to have been made subsequent to that date. Undaunted by the previous failure, as well as by the natural difficulties, Dr. Roy determined to make a bold attempt to vaccinate that sub-division. He concentrated the whole establishment of three gangs at three convenient centres, who proceeded bodily from east to west. The first difficulty encountered was the repeated failures of lymph obtained in tubes from Calcutta: much valuable time was thus lost. Ivory points charged with lymph from Calcutta, and the English lymph, arrived simultaneously on 1st November, and both proved successful. Dr. Roy proposes to keep up virus during the recess so as to be quite independent of any outside supply.

Programme of the season's work

The second difficulty encountered was the stern resistance of the people of Latterghur and adjacent villages, who even assaulted a vaccinator. The Assistant Superintendent of Police, who happened to be there, was appealed to by the vaccinators. He tried both persuasion and expostulation, but in vain; the people said they would not have vaccination as they never had had inoculation. Just at this time Dr. Roy arrived, and for two days tried his best to talk over the people. The people being obstinate and not open to reason and conviction, he applied to the District Superintendent of Police and the Assistant Commissioner of Palamow for assistance. The former refused, and the latter took no notice of it for a month. In this state of desertion Dr. Roy proceeded to the village accompanied by his whole staff, and peremptorily ordered every child to be vaccinated in his presence. This somewhat irregular and stern measure produced a marvellous effect. The people submitted and afterwards gave no more trouble. It seems they had been told that Government, having failed to construct a certain bridge, wanted to propitiate the deity by human sacrifice, and therefore have sent vaccinators to collect sufficient human blood. They believed that every child that was vaccinated would sicken and die. When they saw that the vaccinated children did not die, they confessed their error. From this incident Dr. Roy argues for a compulsory law of vaccination, as he thinks it is no use arguing and reasoning with such foolish people.

33. The first two gangs under two Mussulman Native Superintendents worked well and protected several thanas and outposts, while the third party under a Hindoo idled much of their time. A Mahomedan was appointed in February, and then the party soon made up for their past indolence. The total number vaccinated during the past season was 50,442, against 13,818 in 1875-76. This is the highest number ever done in Ranchee, and is very creditable to the officiating Superintendent. The number of successful operations was 44,763, giving a percentage of 95.39. This result is attributed to three causes: 1st, that nearly three-fourths of the men were new and inexperienced; 2nd, that vaccination had to be done from lymph conveyed on ivory points, and sometimes from crusts, in cases of emergency. Needles are used in this circle for vaccinating: this may be a third factor, which brought down the percentage to 95.39. Dr. Roy was also indefatigable in his inspection, and travelled 852 miles. He was on a tour from November to March, and visited two parties five times each and one party on three occasions. He inspected 12,579 cases and visited 427 villages. The ratio of success according to his inspection was 87.26. The average number done by each vaccinator was 2,654, and would have been more, says Dr. Roy, if the Palamow sub-division had been more thickly populated and had possessed good roads of communication.

Small-pox.

34. Small-pox is reported to have caused altogether 679 deaths, which were thus distributed:—Lohardugga 265, Palamow 189, Singbhoom 103, Hazareebagh 89, and Manbhoom 33. Many deaths that were really due to measles were returned as caused by small-pox, there being no separate column in the police mortuary return for measles. Dr. Roy remarks: "The number of deaths from small-pox in Palamow deserves a more extended analysis. Here, out of 189 deaths reported, 159 occurred between the months of April and October, while only 30 from October to March. The fall in the ratio is marked and sudden, and establishes the fact of the general subsidence of the disease in the cold months. The deaths from small-pox under different months may be thus tabulated according to their fatality:—April 165, May 142, July 136, June 78, September 41, August 39, October 26, February 14, March 13, November 9, December 8, and January 8. Reports of the number of outbreaks of small-pox are supplied regularly to this office from Palamow, whilst the Deputy Commissioners of other districts have dropped such communications either to the Superintendent or to the Civil Surgeon. Hence all the reports received, except of Hazareebagh, supply no information as to the total number of cases in the districts." There is no space to transcribe all the interesting details of the incidence of, and mortality from, small-pox given in Dr. Roy's report. It appears from the reports that inoculation, though rendered penal by law, is still occasionally and surreptitiously practised.

35. Dr. Roy complains that he received very little assistance from the civil and police authorities, with the exception of Mr. Roberts, Assistant Superintendent of Police, Palamow, who gave every aid. Mr. Forbes, the Assistant Commissioner of Palamow, is said to have been very indifferent to vaccination. The Rajah of Sonopora and the zemindars of Chinpore and Ontaree rendered great assistance by setting personal example and thereby inducing others to accept vaccination; they deserve favourable notice by Government. Major Walcott, the Deputy Commissioner of Lohardugga, kindly allowed Dr. Roy to address the zemindars assembled on 1st January on the subject of vaccination, which with the Major's own earnestness, had a wholesome effect.

36. The whole establishment is favourably reported on by Dr. Roy, and the past season's work has been a very decided success absolutely; and still more to be commended, because of previous seasons affording less satisfactory proof of successful direction and honest co-operation.

37. *Eastern Bengal circle.*—Mr. Lyons, who filled the office of Superintendent throughout the year, has submitted a detailed report.

38. The actual establishment employed in the past season consisted of one Superintendent, one Deputy Superintendent, six head vaccinators, 30 permanent vaccinators, 16 extra vaccinators, and 22 apprentices; being short by six permanent and 20 extra vaccinators, and two apprentices of the sanctioned establishment. Mr. Lyons gives a long roll of vaccinators who deserted, and of others whom he dismissed for misconduct, and also of extra men who were promoted to fill up the vacancies. In this way four out of the six head vaccinators were new and inexperienced men.

39. An attempt was made to keep up a local supply of vaccine lymph, but through the carelessness of the vaccinators the virus degenerated. The same degeneration also occurred in a vaccinated child taken from Calcutta. Virus was subsequently established from tubes of lymph sent up by the Superintendent-General of Vaccination. Regular operations were commenced from October. Four new thanas of Furreedpore, as well as four thanas that had been partially protected during the previous years, were undertaken during the past season. When those had been gone over, thanas Muckshoodpore and Madareepore were also visited in the months of February and March. Altogether the portion of establishment employed in the Furreedpore district visited 994 villages and vaccinated 92,481 persons. The Deputy Superintendent, two head vaccinators, six permanent and six extra men, and twelve apprentices were deputed to the Dacca district to maintain the protection of six out of the twelve thanas comprising that district. This detached body is said to have visited 1,153 villages and vaccinated 57,053 persons. I regret to find that the portion of the establishment detached and deputed to Dacca district was not looked after by Mr. Lyons; it was left entirely to the Deputy Superintendent, who is merely a head vaccinator. Much reliance cannot be placed on the numbers and results of the operations said to have been done by them. The Superintendent could have easily found time to go and supervise the work in the Dacca district once or twice during the season.

40. The total number said to have been vaccinated was 149,534, of which 149,152 were successful, giving a percentage of 99.78. The average number vaccinated per man is 2,136, against 1,210 in the previous year. The cost of each successful case is one anna and three pies, against one anna and ten pies last year.

41. The Superintendent travelled on foot and also by boat, and visited 239 villages. He inspected 16,931 cases, of which 16,303, or 96.29, were successful, and found less sore arms than before. Mr. Lyons again appeals and asks for some travelling allowance, as he cannot go about on foot. The Superintendents of the Behar and Orissa circles receive Rs. 50 as travelling allowance for six months, and I would recommend that the same be accorded to Mr. Lyons.

Eastern Bengal
Circle
Establishment

42. A census was taken of 53,557 persons, of whom 61·73 per cent were found inoculated, 31·82 vaccinated, 3·33 had had small-pox, and 3·09 unprotected. If the figures are correct and reliable, the result is satisfactory. But Mr. Lyons does not say anything regarding the locality where, and the agency by whom, the census was collected, and whether any supervision was exercised by him. Head Vaccinator Juddoo Nath Chowdhry is reported on very favourably by the Superintendent. It appears that this man has always been highly spoken of by the late Superintendent, Bahoo Bhoobun Mohun Mitter, and also by Mr Lyons.

Vaccine census

43. The past season's work is not unfavourable, in my opinion, to Mr. Lyons' energy and management. His appointment was not a popular one with the establishment of the Eastern Bengal Circle, and in consequence, he has had serious obstacles to overcome. But when the bad lots have been weeded out, and he has a fairer opportunity for the full display of his acknowledged ability, I expect his appointment will justify itself.

Meanwhile it is handicapping him very heavily so long as he is not put on the same footing with other Superintendents in the matter of "travelling allowance." He has had his punishment for a previous *fauz pas*, but notwithstanding he has not evidenced either contumacy or indolence, and I strongly recommend his case for the benevolent consideration of Government.

44. *Sonthal Pergunnahs circle*—Assistant Surgeon Mothoor Nath Sen, who held the office of Deputy Superintendent of Vaccination throughout the year, has submitted a full and exhaustive report. Several changes occurred in the establishment. The post of Native Superintendent was abolished and the whole circle was re-organized. Three head vaccinators were entertained and the number of vaccinators was increased to 18. The vaccinators were classified into three grades, receiving Rs. 12, 10, and 8 each respectively in the working season, and Rs. 8, 6, and 5 during the recess.

Sonthal
Pergunnahs circle
Change of
establishment

45. Vaccination was carried on throughout the recess, either to repress small-pox or to preserve vaccine lymph. Before the working season arrived, the Deputy Superintendent had, with the Civil Surgeon's consent and approval, drawn up a concentrated and systematic plan of operations. Rajmehal and Pakour were selected as the field of operation, though those sub-divisions had once been gone over in previous years. The vaccinators were arranged in gangs, and to each gang two or three pergunnahs were assigned for protection. The work made fair progress up to the middle of December, when the men were laid up with fever and the operations fell off.

In the Rajmehal sub-division 21,822 persons were vaccinated, with 99·13 per cent. of success. It is shown that the birth-rate of this sub-division for four years has been overtaken. Again in the Pakour sub-division 430 villages were visited and 16,189 cases were done, with 99·70 per cent. of success. The birth-rate of nearly four years has been thus protected. There were also 4,744 vaccinations performed in the Godda sub-division, and a few cases in Nya Doomka. The total number of persons vaccinated during the year amounted to 42,849, against 30,306 in the previous season. The cost of each successful case was one anna and six pies, against two annas and one pie.

Number of persons
vaccinated

The average number done by each vaccinator was 2,151, against 2,331, and the decrease is explained by sickness, inexperience of the new men, and also by the paucity of subjects for operations, the area having been once gone over before. The total work, however, done this year was in excess of the previous season's by 12,678, that is 42,849 against 30,171.

46. The Deputy Superintendent conducted his inspection in a thorough manner, notwithstanding all the difficulties arising from want of roads and means of communication in the Sonthal Pergunnahs. He visited altogether 297 villages and inspected 14,366 cases. The percentage of successful cases according to his inspection is 98·94, against 99·36 in the general return. The people are said to be favourably disposed towards vaccination.

Inspections

47. The following regarding small-pox is quoted from the report:—

"*Small-pox*.—During the non-working season, that is from April to September, fifteen reports of small-pox were received from Rajmehal and Pakour sub-divisions. Fifteen villages were affected, and a total number of 80 persons were ascertained to have been attacked with the disease. The number of deaths reported was 13. Vaccinators were sent to every affected village, and one and all the infected spots were protected by vaccination, and thus the spread of the disease was arrested. Of the 80 cases attacked, 29 were in Rajmehal and 51 in Pakour; 16 cases were reported from HENDWAH, in Nya Doomka, with no deaths.

Number of reports
received regarding
small-pox

"*Working season*.—Pakour sub-division was almost free from small-pox during the cold-weather, while four reports were received from Rajmehal sub-division. The number of cases attacked were 33 in four villages, with eight deaths."

48. Six inoculators were trained during the season; four of them received licenses to work on their own account. Inoculation, though prohibited by law, was clandestinely practised in some villages, and is said to have caused an outbreak of small-pox. One inoculator was arrested and punished. The Deputy Superintendent reports favourably of his establishment. The work of the past season is proof of energetic discharge of duty on the part of all hands.

Inoculation though
prohibited by law
is clandestinely
practised.

Orissa circle.	49. <i>Orissa circle</i> .—Assistant Surgeon Presitosh Haldar, who assumed the superintendence of this circle on 24th October, has submitted a brief report of the season's operations.
Change of establishment.	50. The establishment underwent several changes. The former Superintendent was transferred and the present incumbent was appointed in his place. The establishment sanctioned by Government for this circle consists of one Superintendent, five head and 30 ordinary vaccinators. The number actually employed, however, was one Superintendent, three head vaccinators, 21 ordinary vaccinators, and nine apprentices. Some of the vaccinators were imported from Calcutta, while the rest were selected from among the natives who had served last year as apprentices.
Programme of the season's work.	51. When the new Superintendent took charge no virus had been established, as two supplies of lymph from Calcutta had both failed. Instead of losing time, a head vaccinator was despatched to Calcutta to bring down a vaccinifer. Virus was first established at a place about 16 miles from Chandbally, where one gang had been sent to work. The establishment was divided into three gangs, each under a head vaccinator, and they were placed in contiguous thanas. The field selected for operations were the sub-divisions of Kendraparah and Jajpore, in the district of Cuttack, which had been gone over cursorily during the previous season. The vaccinators attempted to work in a systematic manner and leave no village unprotected, but their efforts in this direction were only partially successful, owing to the prejudice of the people and opposition of the inoculators. The vaccinators visited 982 villages and performed 24,871 operations, against 1,293 in 1875-76. The percentage of success was pretty high, viz. 98.92, and it is attributed to the adoption of arm-to-arm vaccination. In very few cases were tubes or crusts used. The average number of operations performed by each vaccinator was 828. The average cost of each successful case is three annas and three pies.
Inspection.	52. The Superintendent travelled over 1,519 miles, visited 176 villages, and inspected 13,652 cases. The ratio of successful cases according to his inspection was 99.11 per cent. 53. An attempt was made to train inoculators as suggested by the Civil Surgeon of Cuttack, but none came forward for instruction. The work of vaccination in Orissa is attended with many difficulties, owing to the ignorance, prejudice, and conservatism of the people. All these obstacles will gradually disappear in course of time, and it is only necessary that the work should be steadily and perseveringly pushed on. The Superintendent thanks the civil authorities for the aid he received in forwarding the work of vaccination. This was as it should be. No report on the outbreak of small-pox was received, only a few sporadic cases were reported. The whole establishment is said to have performed their duties satisfactorily. The Superintendent, Baboo Presitosh Haldar, has, according to the Civil Surgeon, zealously worked throughout the season, and been actively employed in superintending the different gangs employed in the district. The work of the past season of the Orissa circle is extremely creditable to the Superintendent, who succeeded to an imperfectly worked staff.
Behar circle	54. <i>Behar Circle</i> .—Assistant Surgeon Kally Das Bose, who held the superintendence of this circle throughout the year, has submitted a full and detailed report.
Establishment	55. The establishment sanctioned by Government consists of one Superintendent, five head vaccinators, and 30 vaccinators, besides one clerk and one peon; the number entertained, however, was somewhat below the sanctioned strength. Excepting three Bengalees, all the rest are said to be local or indigenous men. In addition to the regular establishment, 13 extra inoculators were entertained as apprentices for training. 56. During the last non-working season, when vaccinators received two-thirds of their pay, cholera having broken out at Patna and Bankipore the Civil Surgeon ordered the vaccinators to distribute medicines to the cholera-affected patients, which the vaccinators declined to do unless paid their full rates of salary. Eleven men were summarily dismissed. <i>Apropos</i> of this, the Superintendent represents that vaccinators should not be employed in any other duty than their legitimate work. About the middle of September preparations were made for the season's work by sending vaccinators to the villages, by circulating printed Hindi notices, and also by beating of tom-toms. The civil authorities were also requested to give aid, though the perwannahs issued by them seem to have had little influence on the zemindars. The vaccinators were divided into gangs consisting of six men under one head vaccinator, the gangs being again sub-divided into parties of two men and placed in villages four or five miles apart. In this way the concentrated system of vaccination was followed. Thanas Bankipore and Bierum of the sudder sub-division, and Monair and Dinapore of the Dinapore sub-division, were chosen as the field of operation. The people appeared to be less hostile than in the previous season. A change seems to have come over every class of people except the Bhamuns or petty zemindars. The Mussulmans are said to be more docile than the Hindoos. All the absurd rumours that were circulated last year have more or less given way. Nobody now believed that blood was taken from the vaccinated children and put on the railway engine, that children would die a few days after vaccination, and so forth. The only fear they now entertain is about the imposition of a new tax on account of vaccination.

57. Vaccine lymph was preserved throughout the year, so that no time was lost in commencing the season's operations. The total number of vaccinations performed by the establishment amounted to 11,423, against 4,328 of the last year. In primary cases the percentage of success was 97·51, against 87·45 in the previous season. The average number done by each vaccinator was 519, against 269 in 1875-76. Each successful case cost to Government seven annas and nine pies against six annas and three pies, of last year. This increase of expenditure is explained by the fact that the circle establishment was paid for twelve months instead of three months as in 1875-76. The Superintendent inspected 8,733 cases.

Lymph
Number
vaccinated.

58. The Act IV (n.c.) of 1865, prohibiting inoculation, has been introduced into the four thanas, viz. Bankipore, Bicum, Dinapore, and Monair, which were thoroughly protected during the past season. Six prosecutions under the above Act were undertaken, in which five inoculators were punished and one discharged for want of sufficient evidence. Small-pox was more confined to Behar and to some villages to the west of the Dinapore cantonment than elsewhere. Chicken-pox prevailed to a certain extent at Dinapore itself. Altogether 305 reports of small-pox were received and 79 deaths reported during the past twelve months.

Introduction of
Act IV of 1865

59. The Superintendent reports rather unfavourably of his establishment, since he was obliged to fine some men and dismiss others. Baboo Kally Das Bose worked very hard and conducted his duties with zeal and energy.

Unfavourable
report of
establishment.

60. *Dispensary vaccination.*—Under this head are included the vaccinations performed by vaccinators attached to dispensaries and municipalities, and also by all ex-inoculators and private practitioners who submitted returns of their work. The details of the work are fully given in table No. V; and the abstracts of the reports submitted by civil surgeons, which have been compiled with great care, give a clear and complete view of what has been done in each district. I shall here briefly draw attention to the state of vaccination in each district, following the order in which they have been arranged in the table and abstract.

Dispensary
vaccination

61. Commencing with the Burdwan division, three of the districts comprised in it—*Burdwan*, *Hooghly*, and *Howrah*—are included in the area of the Metropolitan circles and are maintained in a high state of protection. In addition, several municipalities entertained vaccinators who did good work under the supervision of civil surgeons and their assistants. The other three districts—*Bankoora*, *Midnapore*, and *Beerbhoom*—are not included in any vaccine circle. In Bankoora a system of self-supporting vaccination has been organized and a large number of ex-inoculators were employed; but in the absence of Mr. Conolly there was wanting that thorough and complete supervision which he used to exercise. The amount of work done has, therefore, fallen off as compared with the previous seasons. In Midnapore, on the contrary, the work of self-supporting vaccination by converted inoculators has undergone considerable increase. In Beerbhoom the civil medical officer has succeeded in inducing some inoculators to adopt vaccination, and he hopes to show better results in the future. The work of the Government vaccinators at Sooree has, however, declined. Of the districts in the Presidency division, the whole of the 24—*Pergunnahs*, *Nuddea*, and *Jessore* are systematically vaccinated by the Metropolitan circles. Several townships and municipalities employed vaccinators, who were all trained men and supplied by Mr. Gupta. *Moorshedabad* is not included in any vaccine circle. Vaccination was performed in the cities of Berhampore and Moorshedabad, and also in some of the branch dispensaries. Dr. Shircoore again urges the necessity of transferring the district to one of the vaccine circles, and the Magistrate supports the proposal. The Superintendent of the Metropolitan circles has proposed to add Moorshedabad and two other districts—viz. Beerbhoom and Bankoora—to his circles, and I have supported his proposal and recommended the extension of the circles. All the districts in the Rajshahye division (*Pubna* excepted) are included in the Darjeeling circle of vaccination. In addition to the circle work, all the districts show considerable improvement. In Rungpore Dr. K. D. Ghose had eight vaccinators entertained by zemindars and the people, who paid small fees and thereby got a good deal of work done. The vaccinator at *Maldah* did more work than what he had done in the previous year. *Pubna* shows some improvement, especially the sub-division of Serajgunge. In *Bogra* the number of vaccinations has risen. The Orissa division has been formed into a vaccine circle, and it has passed through the second year of its existence, and shows much better results under the new Superintendent. Vaccinators were also attached to the municipalities of *Cuttack*, *Pooree*, and *Balasore*, and they did good work under the supervision of the Civil Surgeons.

Burdwan division.

Municipal
vaccination

Bankoora.
System of self-
supporting
vaccination
introduced.

Midnapore
Beerbhoom

Presidency
Division

Moorshedabad

Orissa Division

The eastern districts composing the Dacca division are all included in the Eastern Bengal vaccine circle. The amount of work done by the circle staff was confined to two districts—Dacca and Furreedpore. The municipal vaccinators employed in Dacca and Furreedpore performed a smaller number of vaccinations, while in *Mymensingh* there was an increase of work. In *Chittagong* Dr. Murray got more vaccinators entertained, but the work was in this district proportionately small, as well in *Noakholly*, on account of the cyclone and of cholera which followed it. More work was done in Tipperah.

Eastern Districts.

The Patna division has been formed into a vaccine circle, with its head-quarters at Patna, and has shown better results at the close of its second year. In addition to the work

Patna Division.

Bhagalpur
Division.Cooch Behar
DivisionSelf-supporting
vaccination

Small pox

Inoculation

of the circle, vaccinators were employed by the municipalities of *Patna* and *Dinapore*, who performed fewer vaccinations compared with the previous year. The work at the sub-divisions of *Behar* and *Burh* were both unsatisfactory. In *Gya* and *Shahabad*, including its many sub-divisions, some work was done by municipal vaccinators and by several converted ex-inoculators. The municipal vaccinators of *Mozufferpore* accomplished less work as compared with the previous year. Dr McDonnell got a large number of vaccinations done in *Durbhanga* by ex-inoculators as well as municipal vaccinators. A large Establishment was entertained at *Saran*, but the results achieved were not proportionately good. *Chumparun* shows good work. It is satisfactory to note that in most of the Behar districts many inoculators have given up their old calling and adopted vaccination. If a competent supervising staff could be organised, much good work might be accomplished without any great cost. In the Bhagalpur division (*Purneah* excepted) vaccination on the self-supporting system has gained a firm footing. The inoculators of *Monghyr*, *Bhagalpur*, and *Sonthal Pergunnahs* have given up their old calling and adopted vaccination in its stead. An inspector of vaccination has been appointed to each of the districts of this division as well as in *Chota Nagpore*, but one is not sufficient to supervise the work of a whole district. The number of ex-inoculators engaged in vaccination in the districts of *Monghyr* and *Bhagalpore* was very large, viz. 196 and 239 respectively. It is open to question whether it is safe to allow such large numbers of imperfectly trained men to work with only one inspector to look after them. *Purneah* is included in the Darjeeling circle of vaccination. The municipal vaccinator did more work than in 1875. The districts of *Darjeeling* and *Julpigoree*, in the Cooch Behar division, are both included in the Darjeeling circle of vaccination. In *Chota Nagpore* self-supporting vaccination has been established on a firm basis in the districts of *Manbhoom* and *Singbhoom*, and much credit is due to Messrs. *Wilson* and *Manook*. In *Manbhoom* a large amount of good work was done under Mr. *Wilson*, the Civil Surgeon, who inspected a very large number, and has evinced a most active interest in the work of vaccination. There was again a slight falling off in the work in the *Singbhoom* district.

62. *Self-supporting vaccination*.—As the work of ex-inoculators and other independent practitioners is included under the head of dispensary vaccination, I shall here state something regarding what has been called “self-supporting vaccination.” A special report on this subject has been lately submitted to Government. By the phrase “self-supporting vaccination” is meant the work of ex-inoculators and others who practise vaccination and charge small fees to the people without receiving any salary from Government. This system has been introduced into the following districts: *Midnapore*, *Bankoora*, *Sonthal Pergunnahs*, *Bhagulpore*, *Monghyr*, the whole of *Chota Nagpore*, and some districts of *Behar*. Roughly estimated, some 257,564 vaccinations have been done by the agency of ex-inoculators and other independent practitioners at a cost of Rs. 3,895-6-1 to Government, or about 3 pie for each case. But I cannot vouch for the quality of the operations. In some cases probably they were not genuine vaccinations, merely sores and scratches. As my views have been stated in the special report, I can only repeat that the system of self-supporting vaccination should be cautiously and gradually extended through the agency of the circles. Civil Surgeons, who are entrusted with several important duties, are not expected to take charge of a duty which entails constant travelling into the interior of the districts. No doubt there are exceptional cases where some Civil Surgeons have been able to entrust their assistants with the station duties and go out and travel in the mofussil and exercise supervision. In some districts inspectors of vaccination were appointed to look after the ex-inoculators, but one man was not expected to exercise sufficient control and supervision. Inoculators as a class are not very trustworthy; when left to themselves, they are apt to become careless, and even to practise their old calling clandestinely. The abstracts of Civil Surgeons’ reports will show how such offending inoculators have been sometimes detected and punished. Under such circumstances, it cannot be considered safe to allow them to work without constant and thorough supervision; and this supervision can only be ensured by the agency of the vaccine circles.

63. Small-pox was present in many parts of the province during the past season, but it seldom assumed epidemic dimensions. *Calcutta* did not suffer much from small-pox, only 74 deaths were reported from it, including, probably, some deaths due to measles. In the Metropolitan circles only 15 outbreaks, affecting 184 persons, were reported, against 58 and 477 respectively. In *Midnapore*, small-pox prevailed epidemically, while *Beerbhoom* and *Bankoora* were almost free from the disease. *Orissa* shows some mortality from it. In the *Darjeeling* circle small-pox was present in all the districts, but the mortality was not great. In *Eastern Bengal* no district was free from the disease, but it was more prevalent in some districts than in others. The disease was prevalent in *Chota Nagpore* and in most of the districts of *Behar*, and caused many hundred deaths. But, on the whole, the past year shows great diminution of small-pox when compared with 1875.

64. Inoculation is still practised in many districts as reported by Civil Surgeons and their subordinates; but no information is given regarding its mortality, and it is difficult to ascertain whether it is attended with any large mortality. But there is no doubt that inoculation or variolation is a most pernicious practice, since it sometimes gives rise to

small-pox and always endangers the safety of a community. It ought, therefore, to be prohibited where a sufficient provision has been made for vaccination, and this is being steadily carried out with the happiest results. The Act IV (B.C.) of 1865, prohibiting inoculation, is in operation in Calcutta, the metropolitan circles, Midnapore, Bankoora, Chota Nagpore, Sonthal Pergunnahs, Patna, Bogota, Dacca, Furreedpore, and in almost all sudder stations.

65. A vaccine census was collected by the vaccine circles, also by the Civil Surgeons and medical subordinates, and these have been compiled into table No VI in the appendix. The figures for jail convicts are perfectly reliable, and show that between 60 and 70 per cent are inoculated. The figures for schools may be taken as a very fair standard of the amount of protection conferred on the juvenile population. The ratios for different districts and parts of Bengal vary considerably, and as all the returns have not been carefully supervised, no general conclusion can be safely drawn from them.

Vaccine census

66. In conclusion, I have much pleasure in observing that the number of vaccinations during the year has undergone great increase as compared with 1875—indeed, about three-fourths of the birth-rate of the whole province has been protected; and, further, a great deal has been done in extending vaccination and in putting it on a sound basis. An attempt was made to establish the self-supporting system on a firm and correct basis by the appointment of Deputy Superintendents and Inspectors to supervise the work of independent vaccinators. I am glad to be able to conclude this report by saying that the hope expressed last year for better results has been in a great measure realized, and that the province of Bengal shall soon become one of the best protected tracts in the world.

General conclusion
Increase of
vaccination as
compared with
previous years

I have the honor to be,

SIR,

Your most obedient servant,

J FULLARTON BEATSON, M.D.,

Surgeon-General, Indian Medical Department.

ABSTRACT OF REPORTS BY CIVIL SURGEONS.

WESTERN DISTRICT.—BURDWAN DIVISION.

Burdwan District	<i>Burdwan District.</i> —The vaccination of this district is entrusted to the Metropolitan circles. One vaccinator at Rs. 12 per month, from 4th September 1876 to 10th March 1877, was entertained by the Burdwan Municipality, and he vaccinated 783 cases, of which 104 were inspected by the Civil Surgeon and his assistant. The people are said to seek after vaccination instead of opposing it. There was no inoculation, and the town of Burdwan was almost free from small-pox. A few railway passengers with small-pox were sent to the dispensary for treatment. A census of 956 persons was taken with the following result: 72·6 per cent. were found to be inoculated, 1·9 vaccinated, 18·6 had had small-pox, and 5·5 unprotected. The Cutwa and Dainhat union entertained a vaccinator for four months, who vaccinated 533 persons, 499 successfully. The Assistant Surgeon inspected the work from time to time. Inoculation has disappeared from the sub-division of Cutwa. The people now welcome vaccination. The vaccinator appointed by the Jehanabad Municipality also successfully vaccinated 551 cases. Inoculation has been rendered penal by law in this sub-division, and there was no outbreak of small-pox.
Beerbhoom District	<i>Beerbhoom District.</i> —The civil medical officer, Mr. Fitzgibbon, reports that one Government vaccinator on Rs. 10 a month, and six unpaid vaccinators (ex-inoculators) worked in this district; the former worked in the sudder station and its neighbouring villages, protecting village after village, while the latter were sent with perwannahs from the Magistrate to the interior, to work under police supervision without any definite plan. Of the six ex-inoculators, five submitted returns and nothing was heard of the other. The work of the Government vaccinator was inspected by the civil medical officer and found to be satisfactory. The police certified regarding 1,207 cases out of the number vaccinated by the ex-inoculators. Altogether 2,836 cases were operated, of which 2,805 were successful. The work, compared with that of the previous year, fell short by 632 cases. Prevalence of fever at the commencement of the season and resort to inoculation by the people account for this decrease. Prejudices against vaccination are giving way, and Mr. Fitzgibbon is confident of vaccinating the whole district in a short time, provided he should get an organized staff of ex-inoculators and an inspector. Inoculators voluntarily come for the purpose of being trained as vaccinators. Inoculation is not so prevalent now as it was before. No epidemic of small-pox occurred in the district. The native doctor of Hattumpore dispensary vaccinated a few cases. Several thanas of this district were more or less protected by part of the Metropolitan circles.
Bankoora District	<i>Bankoora District.</i> —Dr. R. L. Dutt, Officiating Civil Surgeon, reports that 49 ex-inoculators worked during the past season, and three head vaccinators and two inspectors were employed in supervising the vaccine operations in this district. The two inspectors received pay at the rates of Rs. 40 and 30 for working and non working seasons up to November, and from December at reduced rates, viz. Rs. 20, and 16 up to the end of March, when their services were dispensed with. The services of three head vaccinators at Rs. 8 each, though not provided in the budget, were retained, and they were discharged on 22nd December on the receipt of the Surgeon-General's orders. The number of vaccinations has fallen from 37,435 to 14,738, and this decrease is ascribed by Dr. Dutt to two causes, viz., 1st, reduction of establishment, i.e., discharge of the three head vaccinators in December; and 2nd, difficulty experienced by the ex-inoculators in realizing their fees from the people. Out of 14,738 cases, Dr. Mountain inspected 2,456, and the two inspectors 9,906. Inoculation has been prohibited by law in the Bankoora district; only one case of small-pox was reported.
Midnapore District	<i>Midnapore District.</i> —Dr. Mathews, the Civil Surgeon, has submitted a pretty full report of the proceedings of the licensed vaccinators in this district. It appears from the returns submitted by him that altogether 59 men were employed during the past season, and they vaccinated 78,388 persons, of whom 74,664 are said to have been successful; thus there was an increase of 40,802 over the previous season's number. A Deputy Superintendent of Vaccination was appointed in the month of December, in addition to the three inspectors engaged in the previous season, to supervise the operations. The Civil Surgeon saw 1,545 cases, the Deputy Superintendent 5,850, and the three inspectors 21,139. Inoculation has been prohibited by law in the Midnapore district since September 1876. Small-pox broke out in the thanas of Bhagabanpore, Pataspore, Nandigram, Sutahatta, Muslandapore, Egra, and Tumlook; 873 cases are reported to have occurred, of which 104 proved fatal.
Hooghly District	<i>Hooghly District.</i> —This district is included in the Metropolitan circles of vaccination. One permanent vaccinator paid by the Hooghly Municipality and another temporary vaccinator entertained by the Guptiparah union from 20th February to 31st of March 1877 were employed. The former worked within the limits of the Hooghly and Chinsurah

Municipalities, and the latter within the Guptiparah union. Altogether 2,388 cases were vaccinated, of which 2,016 proved successful; 2,050 cases were inspected by the Civil Surgeon, and the work was reported to be satisfactory. The people are willing to have vaccination, and the practice of inoculation has been discontinued. There was no outbreak of small-pox. No inoculators were trained during the year.

Serampore Sub-division.—One vaccinator on Rs. 10 per month was employed by the Serampore Municipality throughout the year, and vaccinated chiefly within municipal limits. Another vaccinator was employed for two months by each of the town committees of Buddybatty, Kotrung, and Bhuddressur, who performed 307 successful vaccinations. At Serampore 906 persons were vaccinated, of whom 898 were successful. The Civil Surgeon tested the work two or three times a month and inspected 218 cases. The people are in favour of vaccination. Inoculation was not carried on, and no inoculator was trained during the year. Very few cases of small pox occurred.

Serampore Sub-division

Howrah District.—The vaccination of this district is accomplished by the Metropolitan circles. One municipal vaccinator on Rs. 10 per mensem was employed from 1st April 1876 to 31st January 1877. On the recommendation of the Civil Surgeon, the municipality entertained four other vaccinators from the 1st of February. The work was chiefly performed within the municipal area, and one or two vaccinated children were daily brought to the hospital for inspection. One thousand six hundred and seventy-one operations were performed, of which 1,312 were successful. Inoculation is almost unknown, and no attempt was made to train inoculators. There were sporadic cases of small-pox, with 54 deaths.

Howrah District

Deaths from small pox

CENTRAL DISTRICTS.—PRESIDENCY DIVISION.

District of 24-Pergunnahs—Vaccination within the town of Calcutta and its suburbs was carried on by the Presidency vaccine establishment, while that of the district was accomplished by the Metropolitan circles. The municipalities of Bussirhat, Keduhatty, Bagjullah, Goberdanga, Nyehatty, Nowabgunge, Barrackpore, north and south suburban towns, and the cantonment of Dum-Dum, however, made special arrangements, and each entertained vaccinators for periods varying from one to six months. The men were supplied by the Superintendent of Vaccination, Metropolitan circles, and the details of work done by them appear in his report. Several ex-inoculators who were trained in vaccination by the Superintendent of the Metropolitan circles, and licensed by him, also carried on vaccination on their own account in their old beats and among their clients charging small fees. The Civil Surgeon examined and gave licences to two inoculators. There was no epidemic of small-pox in any part of the district, and where a few cases appeared the disease was speedily stamped out by the Metropolitan vaccine establishment. The people are said to have faith in vaccination.

Municipality

Nuddea District.—This district is included in the Metropolitan vaccine circles, by which it has been thoroughly protected. Vaccinators were also employed by several municipalities and townships, who worked for periods varying from one to three months; and, where practicable, their work was inspected by medical subordinates in charge of the dispensaries, as also by the Civil Surgeon and Superintendent of Vaccination. Altogether 1,274 persons were vaccinated, of whom 1,209 were successful. The people appreciate the value of vaccination and willingly receive it. The district was free from small-pox; it appeared only in a small village, but was soon stamped out. Inoculation was not practised. No attempt was made to train ex-inoculators or apprentices with a view to set up a body of independent practitioners, and the sum of Rs. 300 sanctioned for the same was not drawn.

Municipality

Jessore District.—This district has been thoroughly protected by the Metropolitan vaccine establishment in seasons 1874-75 and 1875-76. Ten vaccinators were, however, at work under the observation of the medical subordinates in charge of dispensaries at Jessore, Nulldangah, Magoorah, and Sreedharpore, paid either by fees or from special local funds. The vaccinator attached to the Jessore dispensary only drew Rs. 5 a month from Government all the year round. Altogether 2,403 operations were performed, of which 2,174, or 90.47 per cent., were successful. Inoculation has been forbidden by law in this district. Late in the season, Dr. Wright, the Civil Surgeon, made an attempt to train up ex-inoculators and others in vaccination, with a view to establishing them in independent practice, but with no result. The Commissioner of the division suggests that the work of training and licensing of ex-inoculators and others should rest with the Superintendent of the vaccine circle.

Moorshedabad District.—Surgeon-Major S. M. Shircore has submitted an elaborate report of vaccination in this district. During the year under review nine vaccinators on Rs. 10 each a month were engaged to carry on vaccination, and they were thus distributed: two were attached to the Berhampore dispensary, three to City Moorshedabad dispensary, and the remaining four to the dispensaries at Azimgunge, Jungypore, Lalgolah, and Kandi. With the exception of the vaccinator attached to the Lalgolah dispensary, who was entertained by the liberal zemindar of the place, the whole cost of vaccination was met by the municipalities to which the dispensaries respectively belong. The men at Berhampore, Moorshedabad, Azimgunge, and Kandi were employed during the season only, and those at

Agency employed

Jungypore and Lalgolah throughout the year. Vaccination was chiefly carried on within the municipal areas, and altogether a total number of 4,324 persons were vaccinated, of whom 3,713 proved successful. The work in the sudder station was constantly supervised by Dr. Shiroore and the Assistant Surgeon, while that done in the other dispensaries by the respective medical officers in charge.

Dr. Shiroore, though not quite certain, expresses a belief that inoculation is clandestinely practised in the interior of the district. Small-pox did not break out epidemically in the district, but a few isolated cases occurred here and there. An attempt was made to train ex-inoculators with a view to make them independent practitioners of vaccination, but the few that came forward could not be persuaded to undergo tuition, unless paid a monthly salary of Rs 10. The Commissioner of the division recommends the inclusion of this district in the Metropolitan circles. Some thanas of Moorshedabad were partially protected by part of the Metropolitan circles.

RAJSHAHYE DIVISION.

Dinagore District.—The vaccination of this district forms part of the work of the Darjeeling vaccine circle, in which it is included. Two candidates for license to practise vaccination were trained. Altogether 443 successful operations were done under the supervision of the Civil Surgeon and the native doctor. The people are said to be anxious to have vaccination. Inoculation has been forbidden by law. Small-pox was prevalent in the months of April, May, and June.

Inoculation being
prevalent gives
rise to small-pox

Maldah District.—The municipality of English Bazar employed one vaccinator on Rs. 5 a month, who vaccinated 308 cases, of which 273 were successful. The subjects of vaccination were chiefly the prisoners in the jail and people in the town. The work was inspected by the civil medical officer then in charge of the district. Inoculation is very prevalent, and the practice every year gives rise to small-pox. Inoculators are averse to give up their profession and adopt that of vaccination. Small-pox was present in the months of April, May, June, and July, and 76 deaths are reported to have been caused by the disease.

Municipality

Rajshahye District.—The vaccination of the district belongs to the work of the Darjeeling circle. Dr. Bensley submits a very full report on vaccination done at the dispensaries. It appears that vaccination was pushed on with the assistance of the native doctors in charge of dispensaries and two permanent vaccinators paid by the Beaulah and Nattore Municipalities. The Beaulah man received Rs. 10 during the working and Rs. 6 during the non-working seasons, while the one at Nattore received only Rs. 5 a month. The services of these men were also utilized in stamping out outbreaks of small pox. In all 1,852 vaccinations have been performed, of which 1,741 proved successful. The work of the two municipal vaccinators was supervised by the Assistant Surgeon, and that done by the native doctors by the Civil Surgeon while on his inspection tour. Most of the native doctors are reported by Dr. Bensley to have worked with zeal and earnestness. It is not known whether inoculation was practised in the district last year, though there was an outbreak of small-pox in a village in thana Lalpore; but excepting this outbreak, the district was generally free from the disease, a few sporadic cases having only occurred. The work of training ex-inoculators and others in vaccination was not much attended to except at Taherpore, where the native doctor trained three inoculators under him. Dr. Bensley will, however, undertake to do something in this direction, and makes certain suggestions for its accomplishment.

Independent
remunerated by
fees.

Rungpore District.—Dr. K. D. Ghose, civil medical officer, thus reports on dispensary vaccination in this district :—" In the town of Rungpore two independent vaccinators remunerated by fees were secured. Of these, one was attached to the sudder dispensary, and the other to Mahigunge. In the mofussil, the dispensaries at Kakina, Batashur, and Saptna were each supplied with a vaccinator on Rs 10 per month during the working season, a trained ex-inoculator being attached to the Olipore dispensary. At Kurigram two ex-inoculators worked under the sub-divisional native doctor Gora Chand Ghose, who is credited by Dr. Ghose with energy, charging fees to the people according to their circumstances. At Bhowanigunge the two dispensary vaccinators carried on vaccination under the supervision of the native doctor. Thus out of 11 dispensaries, eight were supplied with vaccinators and three remained unprovided for. In all 4,213 operations, of which 3,965 were successful, have been performed at a total cost of Rs. 191-7, defrayed out of municipal and dispensary funds. The town has now been completely vaccinated, as also the neighbourhoods of Batashur, Saptna, and Kurigram. The work was inspected by Dr. Ghose and the native doctors of the dispensaries, and where the operations were concentrated in one spot every case was inspected. Out of 4,213 operations done 3,588 cases are reported to have been inspected.

The people are not opposed to vaccination, and in many cases paid small fees to have it done. The practice of inoculation is in vogue in the remotest parts of the district, while there are places where neither inoculation nor vaccination has been practised for years. Three inoculators were trained as vaccinators, one of whom, as stated above, was attached to the

Ulupore dispensary, and the other two vaccinated in Kurigram. The practice of inoculation in the outlying villages often gave rise to small-pox, but the disease never raged with virulence. One hundred and nine cases were reported by the police, of which seven died.

Practice of inoculation gave rise to small-pox

Pubna District.—Mr. Davis, the Civil Surgeon, reports that the services of the dispensary dresser were utilized in vaccinating during the winter months; he was paid Rs. 8 a month from municipal funds. Two hundred and twenty-five vaccinations were done in the town and its neighbourhood, of which 201 were successful. Many of the cases were inspected by the Civil Surgeon and the hospital assistant. The work was desultory and spread over a large area. The people are not favourably inclined towards vaccination. Inoculation was very prevalent and gave rise to small-pox, and 152 deaths from the disease have been registered. The sudder thana was pretty fully, and another partially, protected by part of the Metropolitan establishment.

Seraigunge Sub-division.—Assistant Surgeon Bhola Nath Pal reports that one vaccinator on Rs. 10 a month, paid from municipal funds, was attached to the sudder dispensary from 1st November 1876 to 31st March 1877. An attempt was made to vaccinate the town and its neighbourhood, the assistance of civil authorities being sought. One thousand and sixty-two operations, against 1,254 of the previous year, were done, of which 770 were successful. The work was inspected by the Assistant Surgeon and found to be good. The decrease in the number of vaccinations was owing to bad lymph received from Calcutta. The people are getting accustomed to believe in vaccination. No inoculator was trained. A few cases of small-pox were noticed in the months of January and February, when inoculation was practised.

Municipality

Small-pox appeared when inoculation practised
Municipality

Bogra District.—Mr. Sandiford, civil medical officer, reports that two vaccinators on Rs. 7 each a month were entertained by the municipalities; one was attached to the sudder station and the other to the Sherpore dispensary. The Assistant Surgeon of Nowkhilla and the native doctor of Bogra also carried on vaccination. Altogether 973 cases are reported to have been vaccinated, 871 of which were successful. The work in the sudder station was inspected by the civil medical officer, and that done in Sherpore by the native doctor. The towns and their suburbs are considered by Mr. Sandiford to be well protected. Prejudice against vaccination still exists, but more with men of higher position and better education. No case of inoculation was met with, and no inoculators came for instruction. There were 11 cases of small-pox, but with no deaths. The work in this district has been nearly double of what was done in the previous year, which Mr. Sandiford attributes to greater interest taken by the operators under his charge.

ORISSA DIVISION.

Cuttack District.—Dr. Stewart, the Civil Surgeon, reports that two vaccinators paid by Government and four paid by the municipality were engaged in vaccination. The subordinates in charge of outlying dispensaries also performed a number of vaccinations. The work of the vaccinators was confined to the town of Cuttack and its suburbs. Two thousand five hundred and forty primary operations were performed, of which 2,035, or 80.1 per cent., were successful. The work was inspected at different periods, and 989 cases were verified. In Ungool a special vaccinator paid from khas mehal funds vaccinated 486 cases under the tehsildar's supervision, of which 250 were successful. In Kondraparah dispensary 103 vaccinations were done, of which 95.14 per cent. were successful. In Dhenkanal dispensary the Assistant Surgeon performed 57 operations, of which 34 were successful. Dr. Stewart thus speaks of the attitude of the people: "The people of the town are still strongly prejudiced against vaccination; the disinclination to part with lymph for arm-to-arm vaccination is great. They have an idea that extraction of lymph weakens the child's constitution. This difficulty is a great obstacle to more extended work."

Pooree District.—The Civil Surgeon, Dr. Price, reports that two vaccinators each on Rs. 10 a month, were entertained; one was paid by Government and the other from municipal (Pooree Lodging House) funds. An attempt was made to protect the sub-division of Khoordah, where small-pox was usually more prevalent than in any other parts of the district, and the Government vaccinator was directed to work there; but the result was not satisfactory, only 32 persons were found willing to take vaccination. The municipal vaccinator worked in the town and the neighbouring villages. A large number of convicts was also protected. A total number of 671 operations was performed, of which 603 were successful. The vaccinations done in the town, together with those performed on the prisoners, were inspected by Dr. Dutt, the then Civil Surgeon, and those done at Khoordah were seen by the native doctor. The supply of lymph ran out in February, or else a better result than what has been already attained could have been secured. The people have a great prejudice against vaccination, and repeated failures of the tube-lymph from Calcutta tended to increase it. Inoculation is prevalent in the district, especially in the Khoordah sub-division. Twenty-one persons were reported to have been inoculated in a village named Sonapore, of whom one died. No inoculators could be persuaded to learn vaccination. Nine hundred and thirty-five cases of small-pox occurred in the sub-districts of Pooree and Khoordah, of which 89 proved fatal.

Inoculation is practised

935 cases of small-pox occurred.

Inspection
Small-pox
prevailed

Balasore District.—Two vaccinators, one at Rs. 10 and the other at Rs. 7 per mensem, were entertained during the year under review. They vaccinated chiefly in the town and its neighbourhood, and performed 444 operations, against 634 in the previous year; and Dr. B. Gupta explains the falling off in the following words:—"The falling off is, in a considerable measure, due to a large percentage of unsuccessful vaccinations which unhappily characterized the proceedings of the last season—a circumstance which gives a handle to the prejudice which the people, notoriously superstitious, entertain against the spread of vaccination." Out of a total of 484 primary vaccinations 310 were successful. The cases vaccinated in the town and at Jhalasore were inspected by the late Civil Surgeon, Dr. Zorab. Small-pox prevailed almost throughout the year, causing 242 deaths. The people are said to be very much opposed to vaccination.

EASTERN DISTRICTS.—DACCA DIVISION.

All the districts in this division are included in the Eastern Bengal circle.

Inspection

Dacca District.—Dr. Crombie, Officiating Civil Surgeon, reports that six vaccinators (three paid by Government and three by municipality) were employed during the year. The town was sub-divided into three parts, and two vaccinators allotted to each. They vaccinated 1,639 cases, against 3,003 in the previous year. The work was inspected once a week either by the Civil Surgeon or the House Surgeon of the Mitford Hospital. No inoculators were trained. Forty-nine cases of small-pox were reported from the town.

Few cases of small-pox reported to have

Frequent
inspection

Furzedpore District.—Baboo Uday Chand Dutt, civil medical officer, reports that one vaccinator, paid by Government at Rs. 10 per mensem, was employed throughout the year. He worked within the municipality of Furzedpore and vaccinated 949 cases, against 1,529 in 1875-76. The civil medical officer inspected the vaccinator's work pretty frequently and was satisfied. The people are said now to accept vaccination willingly. Small-pox prevailed in a sporadic form and caused 86 deaths.

Inspection
No inoculation
small-pox
Agency

Goalundo Sub-division.—Mr Richards, civil medical officer, reports that one vaccinator on Rs. 10, paid from the town fund, was employed from 15th November to the end of February. His work was confined to Goalundo, where he successfully protected 322 persons out of 644. The work was inspected by the civil medical officer and native doctor. No inoculation or small-pox was heard of.

Small-pox

Mymensingh District.—Dr. Bovile, Officiating Civil Surgeon, reports that one vaccinator on Rs. 10, paid by Government throughout the year, worked in sudder station and the adjoining villages, and vaccinated 429 persons, of whom only 186 were successful. The work was inspected by the Civil Surgeon. Inoculation is said to be in vogue in the district. No inoculators were trained. Small-pox is said to have prevailed more than in the preceding year as 79 cases against 16 were reported. The native doctors and compounders attached to the branch dispensaries also performed a few vaccinations. At Tangail so many as 508 operations were done by the dresser, who also acted as a vaccinator.

Backergunge District.—No report has been received.

CHITTAGONG DIVISION.

Agency

Chittagong District.—Dr. Murray reports that seven vaccinators were employed during the year under report—one permanent and two extra men paid by Government, three paid by the Chittagong Municipality, and one from Cox Bazar Municipal Fund, all at the rate of Rs. 10 each per month. One was attached to the dispensary throughout the year, the rest were entertained for the season. Altogether 1,196 operations were done, against 769 in the previous year. Of these 986 were successful. The small outturn of work is explained by the cyclone and its disastrous consequences. Inoculation was extensively practised in the district. Small-pox was prevalent, and is reported to have caused 311 deaths, against 183 in 1875-76.

Inoculation
extensively
practised and
small-pox caused
311 deaths.

Chittagong Hill Tracts.—The civil medical officer reports that a hill-man vaccinator on Rs. 10 a month, paid by Government, worked within the space of 77 miles above and below Rangamatiee, and he vaccinated during the months of November, December, and January 138 persons successfully out of 232, against 264 in the preceding year. The work done during the year was proportionately more than in the previous season, inasmuch as one vaccinator was only employed instead of two. The civil medical officer was satisfied with the result of his inspection. No inoculator was trained. Neither inoculation nor small-pox was heard of.

Inspection.
No inoculation of
small-pox
Agency

Noakholly District.—The establishment consisted of one Government vaccinator on Rs. 10 throughout the year, and two, at Rs. 10, paid by the municipality. The people of Begumgunge also engaged a vaccinator for a short time. The vaccinators were sent to certain centres in the district where they were known, and from which they proceeded to the surrounding villages. Altogether they vaccinated 1,616 persons, against 5,448 in the preceding year; the falling off is due to cyclone and cholera. The civil medical officer

Inspection

inspected the operations in the station and at the dispensary. Inoculation is practised in the district. Three inoculators came forward for certificates, but being impatient and unwilling to learn, they went away. Only 18 cases of small-pox with two deaths were reported in the district.

Inoculation practised.
Few cases of small-pox

Comillah District.—Mr. Stork reports that two vaccinators on Rs 10 each—one paid by the municipality, and the other partly from the dispensary fund and partly from Government—were entertained from October till April. One confined his operations to the town, and the other was deputed into the interior. The civil medical officer inspected their work and approved of it. The total number vaccinated during the year was 1,800, against 1,165 in 1875-76. Inoculation is still rife in the district. Small-pox occurred in a mild form and caused 41 deaths.

Inspection
Inoculation is prevalent
Small-pox

Brahmunberia Sub-division.—One vaccinator on Rs 10, paid by the local municipality, was employed during the year; he worked within municipal limits and vaccinated 948 cases, against 813 in the preceding year. No inoculators were trained. Small-pox was present, but did not cause any great mortality.

Municipality

BEHAR—PATNA DIVISION.

Patna District.—This district is included in the Behar circle of vaccination. The municipalities of Patna and Bankipore entertained, on the recommendation of the Superintendent of Vaccination, one head vaccinator on Rs. 15 and Rs. 10, and another vaccinator on Rs. 12 and Rs. 8, for working and non-working seasons respectively. Six temporary men were also entertained—one at Rs. 10, another at Rs. 8, and four at Rs. 5 each—for the season only. The head vaccinator was made responsible for the whole establishment. They worked at Bankipore and as well as at Patna, and vaccinated 2,481, against 2,099 in 1875-56, of which 2,166 were successful.

Municipality

Barh.—One vaccinator on Rs. 10, paid from the town fund, was employed for five months. He worked in a desultory fashion and vaccinated 347 persons, against 536 in the previous year. Inoculation is still practised in the sub-division.

Inoculation is still practised.

Behar.—Eleven vaccinators, paid from the municipal funds—one at Rs. 10, three at Rs. 9 each, one at Rs. 8, five at Rs. 6 each, and one at Rs. 5—were employed during the season, and they worked within an area of five miles around of the sub-division. Two of the vaccinators accompanied the Deputy Magistrate in his winter tour. The Assistant Surgeon in charge of the dispensary found little time to look after the work. Altogether 486 vaccinations were done, of which 334 were successful.

Agency employed by municipality

Gya District.—Dr. Cameron reports that seven vaccinators on Rs 10 each—two paid by Government and five by the municipalities of Gya, Nowadee, Jehanabad, and Arungabad—were employed during the season. Four of them worked in City Gya and three in the sub-divisions. Altogether 1,668 cases were vaccinated, of which 1,437 were successful. Dr. McLeod, the late civil medical officer, and two native doctors inspected 1,194 operations. The people are said to be strongly opposed to vaccination. Inoculation, though not common, is still practised. Small-pox was more prevalent than usual and had caused 607 deaths, against 331 in 1875-76.

Agency

Inspection

Small-pox was more prevalent than usual
Agency.

Shahabad District. Dr. Shaw reports that two Government and one municipal vaccinator on Rs. 10 each were employed throughout the year. They confined their operations within the Arrah Municipality and vaccinated 2,188 persons, against 2,482 in the previous year. The work of the vaccinators was inspected by the Civil Surgeon twice a week, and found to be dissatisfactory. Inoculation is said to have declined in municipal towns, but still prevails in the district. Five inoculators were trained and granted certificates of proficiency. Small-pox was not prevalent in the sub-district.

Inspection.

No small-pox
Municipality

Sasseram Sub-division.—Two municipal vaccinators on Rs. 10 each worked—one at Sasseram and another at Chinari—from December to March, and vaccinated 749, against 756 in the previous year. The Assistant Surgeon inspected the work, which was rather loose and desultory. The people are opposed to vaccination, and inoculation is prevalent. Six inoculators were instructed and supplied with lymph to carry on vaccination, of which they submitted no returns.

People are opposed to vaccination and inoculation is prevalent

Jugdispore.—One municipal vaccinator on Rs. 10, and seven converted inoculators, together with the native doctor of the dispensary, worked in and around Jugdispore and operated on 1,096 persons. Vaccination is gaining ground and inoculation is declining.

Agency

Vaccination gaining ground

Bhuboah.—One municipal vaccinator on Rs. 10 was employed from December to March and vaccinated 326, against 256 in the previous year. The native doctor inspected a portion of the work. The people are not in favour of vaccination. Inoculation is rife. Small-pox was reported only in one village.

Inoculation

Buxar.—Dr. Jackson reports that five vaccinators worked and vaccinated 694 cases, against 461 in the previous season. No information is given regarding their salaries and the period of employment. The Civil Surgeon and hospital assistant inspected the work. Inoculation prevails extensively. No serious outbreak of small-pox.

Inoculation

Dehree.—Mr. Forsyth reports that one apprentice vaccinator on Rs 10 was employed from January and worked in and around Dehree; only 41 cases were vaccinated.

Agency	<i>Doomraon</i> .—One municipal vaccinator on Rs. 10 worked for four months in Doomraon and its adjacent villages, and vaccinated 132 persons. The Assistant Surgeon was satisfied with the result of his inspection. The people are said to be averse to vaccination. Inoculation was prevalent. Ten inoculators were converted in 1872, but they have submitted no returns of their work during the past season. No small-pox during the year.
Inoculation	
Agency	<i>Mozufferpore District</i> .—Dr. Charles Jackson reports that two Government and one municipal vaccinator, all at the rate of Rs. 10 throughout the year, worked in Mozufferpore and its suburbs. Altogether 2,786 persons were vaccinated, against 4,446 in the previous year of which 2,197 were successful; and many of the operations were inspected by the Civil Surgeon and his assistant. Inoculation is prohibited in Mozufferpore, but it is practised in the district. Three inoculators were trained and worked all in the suburbs of the town.
Inoculation	<i>Seetamurhee Sub-division</i> .—One vaccinator was employed for six months and paid at the rate of Rs. 10 from the <i>chowkedaree</i> fund; he vaccinated 307 children. The people are opposed to vaccination. Inoculation is extensively practised. No epidemic of small-pox.
Agency	<i>Hajepore</i> .—One vaccinator on Rs. 10 a month, paid from local funds, worked for the whole year and vaccinated 336 persons, 271 successfully. The work was inspected by the hospital assistant. Nine inoculators were taught and supplied with lymph and crusts to practise vaccination. Twenty-four cases of small-pox were reported, and prompt measures were taken to arrest the disease.
Small-pox	
Agency	<i>Durbhunga District</i> .—Dr. McDonnell reports that six vaccinators—four paid by the municipality and two by the Court of Wards—all at the rate of Rs. 5, worked in Durbhunga and its adjacent villages. Besides the paid agency there were 145 ex-inoculators, who were also engaged in vaccination. Altogether 9,040 persons were vaccinated, of whom 9,013 are said to have been successful. Inoculation is still practised in the interior of the district. Small-pox was prevalent in the town as well as in the district.
Ex-inoculators	
Inoculation.	
Small-pox.	<i>Mudhoobunnee</i> .—Four vaccinators on Rs. 5 each, partly paid by the municipality and partly from local funds, worked in and around the sub-division and vaccinated 9,318, against 1,047 in the previous year. The native doctor inspected the work. The people are said to be favourable to vaccination. No small-pox was reported.
	<i>Rosserah</i> .—Four vaccinators were appointed by the Civil Surgeon on Rs. 5 each from December to March, besides 44 inoculators, who also practised vaccination on their own account. Altogether 4,621 cases of vaccination, against 748 in the previous year. The work was regularly supervised by the native doctor.
	<i>Tajpore</i> .—Two Government vaccinators and two temporary men at the rate of Rs. 5, together with 30 inoculators, carried on vaccination and operated on 2,175 persons against 775 in the previous year. The hospital assistant inspected the work. No small-pox was reported.
Agency	<i>Saran District</i> .—Dr. Russell reports that one head and nine ordinary vaccinators were engaged in vaccination—one paid by Government at Rs. 10, and three, including the head vaccinator, paid by the municipality, at Rs. 15 and Rs. 10 each respectively—throughout the year. The remaining six were entertained for the season only, two at Rs. 10 each and four at Rs. 8 each. The operations were confined to Chupra and Revilgunge, and <i>mukullas</i> were assigned to each vaccinator. The Civil Surgeon and his assistant inspected the work and found it satisfactory. Two thousand five hundred and fifty-one persons were vaccinated, against 1,654 in the previous year, of whom 2,309 were successful. Inoculation is prohibited within the Chupra Municipality, but it is still in vogue in the district. No inoculators were trained. No epidemic of small-pox.
Municipality	
Inoculation	<i>Sewan</i> .—Three municipal vaccinators on Rs. 10 each were employed from December and vaccinated 846 persons, against 497 in the previous year. Inoculation is rife. No small-pox was reported.
	<i>Hutwa</i> .—One vaccinator on Rs. 10 and two others receiving commission at the rate of two annas for each successful case, all from the Hutwa Raj treasury, were at work from November to March and vaccinated 810 persons, of whom 700 were successful. The Assistant Surgeon inspected the work. The people are said to be hostile to vaccination. Inoculation was extensively practised. No epidemic of small-pox.
Inoculation	
	<i>Bhory</i> .—One vaccinator on Rs. 10, paid by the Hutwa Raj, worked from 15th November to 31st March and vaccinated 222 persons, of whom 165 were successful.
Agency	<i>Chumparun District</i> .—Dr. Meadows has submitted a long and interesting report on vaccination. It appears that one inspector, five dispensary vaccinators, one municipal vaccinator, six apprentices, and 47 ex-inoculators were engaged in vaccination.
Inoculation.	Altogether 5,609 persons were vaccinated, against 286 in the previous year, of whom 4,929 were successful. The rich and respectable people are averse to vaccination. Inoculation is extensively prevalent in the district. Small-pox has very much decreased in the last five years.

BHAGALPUR DIVISION.

Establishment	<i>Morghyr District</i> .—Dr. Hill has submitted a long and elaborate report on vaccination. The establishment consisted of four vaccinators paid by the Monghyr and Jamalpore
---------------	--

Municipalities, and of two men at Khurruckpore paid by the Durbhunga Raj; all at the rate of Rs. 10 per month during the working season and Rs. 5 during the recess. An inspector on Rs. 20 a month was also employed. Five apprentices were entertained on Rs. 4 each for training. In addition to the above, 196 ex-inoculators received licenses to practise vaccination. In Monghyr and Jamalpore 1,273 vaccinations were done, against 1,348 in the previous year, in Khurruckpore 572 against 545, and in Begooeserai 129 against 309. The ex-inoculators returned 21,310 cases. The work was inspected by the Civil Surgeon and his assistant; the inspector verified 4,229 cases out of the number returned by the ex-inoculators. The wealthy and respectable classes are opposed to vaccination. Inoculation is not now openly practised in the district. Small-pox occurred sporadically and caused 869 deaths, against 399 in the previous year.

Inapports n

Small-pox

Bhagalpur District.—Dr. Warden has submitted a long and interesting report on vaccination. The staff consisted of one inspector on Rs. 20 and one vaccinator on Rs. 5, both paid by Government; of two municipal vaccinators who received from the municipality commission at the rate of Rs. 5 for every hundred successful cases; of three apprentices on Rs. 4 each, and of 239 ex-inoculators who received licenses to practise on their own account. Early in October an attempt was made to commence work, but all lymph supplies from Calcutta failed. Dr. Warden succeeded with the North Western Provinces' lymph, and he suspects that the Calcutta lymph loses its potency through putrefaction. Needles were used, as recommended by Dr. Short of Madras, and found by Dr. Warden to answer better than lancets. Altogether 19,482 persons were vaccinated, of whom the Civil Surgeon verified 314, the Assistant Surgeon 125, and the inspector 3,986. Two zemindars, Baboo Hurrymohun Tagore and Sooryee Narain Sing, rendered great assistance, for which they deserve favourable recognition by Government. Small-pox was as usual prevalent and caused 376 deaths.

Agency

Lymph

Zemindars recommended

Small-pox.

Purneah District.—This district is included in the Darjeeling circle of vaccination. Dr. Picachy reports that one municipal vaccinator on Rs. 10 was employed for one month, and he worked in Purneah and also in the adjacent indigo factories. There were 651 persons vaccinated, against 441 in the previous season, of whom 633 were successful. Vaccination is not popular amongst the well-to-do persons. Inoculation is prevalent in the district. Some inoculators applied for instruction rather late in the season. No serious outbreak of small-pox.

Inoculation

Sonthal Pergunnahs.—Dr. Ahmed reports that vaccination in this district was conducted by ex-inoculators. Sixty-seven trained men worked during the past season and vaccinated 42,773 persons, of whom 98 per cent are said to have been successful. The Civil Surgeon inspected 6,610 cases. There were two inspectors on Rs. 20 each, who verified 15,215 cases. Inoculation, though prohibited in this district, was practised in one instance, and the offenders were punished. Thirty-seven candidates came forward for instruction, of whom 15 became qualified and received certificates. Small-pox was prevalent, though much less than in former years.

Ex-inoculators.

Inspection

Inoculation

Small-pox

COOCH BEHAR DIVISION.

Darjeeling District.—This district is included in the Darjeeling circle of vaccination. Dr. Purves reports that no special vaccinators were formerly employed, but lately the municipality sanctioned the entertainment of a vaccinator at Rs. 12 per mensem. Altogether 1,679 cases were vaccinated, against 361 in the previous year. The Civil Surgeon inspected the work in the absence of the Superintendent of Vaccination. A few cases of small-pox occurred.

Municipality

Inspection

Small-pox

Jalpigoree District.—This district is also included in the Darjeeling circle. No vaccinator is attached to the dispensary. Assistant Surgeon Tarruck Nath Ganguli vaccinated 10 cases, seven successfully. The native doctor of Teteliah dispensary vaccinated only five children.

CHOTA NAGPORE DIVISION

Hazareebagh District.—This district is, with the other districts of this division, included in the Ranchee circle of vaccination. Dr. Birch reports that one municipal vaccinator on Rs. 8 was employed during the whole year. He worked within the municipal limits and vaccinated 618 persons, of whom 528 were successful. The Civil Surgeon verified all the cases. Inoculation is prevalent. A large number of small-pox cases was reported by the police with only 31 deaths. Dr. Birch suspects that in many instances chicken-pox was mistaken for small-pox. The native doctor at *Burhee* dispensary vaccinated 55 cases. One vaccinator on Rs. 6 was entertained by the *Chatra* Municipality, and he vaccinated 186 persons, of whom 182 were successful. The native doctor inspected all the work.

Municipality

Inoculation

Small-pox

Inspection

Lohardugga District.—One vaccinator on Rs. 10, paid by the municipality of Ranchee, was employed from November to March, while during the recess he received Rs. 6 per month. He worked in and around Ranchee and operated on 849 persons, of whom 661 were successful. The Civil Surgeon verified 255 cases. Inoculators were trained under the Superintendent of

Municipality.

Deaths from small-pox	Vaccination. Four hundred and fifty-four deaths from small pox were reported by the police. The Assistant Surgeon of Palamow vaccinated 73 cases.
188	<i>Singbhoom District.</i> —Mr. Manook, civil medical officer, has submitted a brief report. Ten licensed ex-inoculators and vaccinators were employed during the past season. They vaccinated 6,454 persons successfully out of 7,587, against 8,205 in 1875-76. An inspector on Rs. 20 being appointed in January, worked till 31st March and verified 5,929. Mr. Manook could not inspect much for want of travelling allowance. He tried to entertain 10 apprentices sanctioned by Government, but could get only three men—one a native of Oudh and two ex-inoculators.
No inspection for want of travelling allowance	<i>Manbhoom District.</i> —Mr. Wilson has submitted two very interesting reports. There was no vaccinator attached to the dispensary, but 591 cases were done by the medical subordinates. Vaccination in this district was chiefly conducted by ex-inoculators and others who worked on their own account. Forty-two Bengali ex-inoculators and 35 up-country vaccinators worked and charged the people four annas for each successful case. The former vaccinated among their old clients and operated on 30,926 persons in 598 villages, while the Hindustanis visited 768 villages and vaccinated 30,250 cases, giving a total of 61,176, against 48,495 in the previous season. The Civil Surgeon inspected and verified 27,118 cases, of which 23,692 were successful. The work in this district was very satisfactory, and Mr. Wilson deserves great credit for the pains and active interest he always takes in vaccination. No apprentices were entertained, as, in Mr. Wilson's opinion, they are not required in Manbhoom. An inspector on Rs 20 was, however, appointed to supervise. Small-pox is reported to have caused 33 deaths.
Ex-inoculators	
Small-pox	

TABLE A

Summary of Vaccinations performed by the General Vaccine Establishment and Vaccination Circles under the Government of Bengal, and by the establishments attached to the Civil Stations or Dispensaries, from 1st April 1876 to 31st March 1877

[illegible]

(A) Included in the South Davis on in Table No 1	(B) Included in the North Division in Table No 1
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

(A) Included in the South Davis on 1
(1) Includes 3 repetition cases

(A) Included in the South Davis on in Table No 1	(B) Included in the North Division
(1) Includes 2 repetition cases	(2) Includes 27 repetition cases

(A) Included in the South Davis on in Table No 1	(B) Included in the North Division in Table No 1
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

(A) Included in the South Davis on 1
(1) Includes 3 repetition cases

(A) Included in the South Davis on in Table No 1	(B) Included in the North Division
(1) Includes 2 repetition cases	(2) Includes 27 repetition cases

Approximate results

TABLE C.
Return of Primary Vaccinations.

	1876-78.		1878-77.	
	Total number of persons vaccinated.	Number of persons successfully vaccinated.	Total number of persons vaccinated.	Number of persons successfully vaccinated.
Government	747,429	640,668	1,079,029	* 1,060,988
Municipal	69,469	51,512	66,680	60,308
Local Fund	3,000	2,787	4,273	3,620
Native State	1,426	1,299	3,489	* 2,871
Dispensaries	8,438	6,867	9,603	8,426
Ex-inoculators	188,567	155,100	224,443	211,622
Native Army	1,008	705	2,620*	2,104

* Including 20 Europeans, of whom 29 were successfully vaccinated.

N.B.—No information has been obtained regarding 72,416 persons vaccinated, and 141,981 successfully vaccinated, during 1876-78.

TABLE No 1

TABLE

Statement showing particulars of Vaccinations in each Division of

1	2	3		4		5		6	7	8	
(CIRCLES)	Name and rank of Superintendent	Number of Native Superintendents or Head Vaccinators		Number of Vaccinators		Total number of persons vaccinated		Collectorate Political Agency or Native State in which vaccinations were performed during the year	Population in area included in last column	Name of portion of district or of town	
		1876-77	1875-76	1876-77	1875-76	1876-77	1875-76				
North Division											
Town	Surgeon Major T. E. Charles, M.D. Superintendent General assisted by two Deputy Superintendents	2	2	6	5	3,906	4,612	In the Town and Suburbs of Calcutta	Town 429,835 Suburbs 267,140 Total 696,975	North Division	
Suburbs		1	1	5	5	2,714	2,022				
Coolie Depot						17,106	20,178				
South Division		3	3	11	11	23,408	27,502				
Town		1	1	7	7	1,007	510				
Suburbs	Surgeon Major T. E. Charles, M.D. Superintendent General assisted by two Deputy Superintendents	2	2	5	5	8,241	8,440	In the Town and Suburbs of Calcutta	Total 696,975	South Division	
Coolie Depot						1,411	1,111				
Total		5	5	10	10	13,661	11,061				
GRAND TOTAL		6	6	(a) 21	(a) 11	37,472	40,173				

Statement showing particulars of Vaccinations in the

1st Metropolitan Circle	Surgeon K. P. Gupta M.D. Superintendent assisted by three Deputy Superintendents	{	4	4	(b) 20	(b) 20	110 012	120 010	Nudda, Purnea, & Lergunnahs and Moorshedabad	661 256	9 thans in Nudda and 2 in Lergun- nahs and 1 thans in Purnea and 4 thans in Moor- shedabad
2nd			4	4	(b) 26	(b) 26	101 242	91 096	Nudda, Burdwan and Moorshedabad	801 931	4 thans in Nudda and 2 in Burdwan and 1 thans in Moor- shedabad
3rd			4	4	(b) 20	(b) 26	301 006	262 131	Burdwan, Howrah and Lergunnahs and Beer- bhoom	877 098	2 thans in Burd- wan and 2 in How- rah and 1 thans in Beerbhoom
Total			12	12	78	78	512 260	471 8			

Statement showing particulars of Vaccinations in the

Dajee Ling	By establishment	Surgeon Major R. Indardale M.D. Superintendent assisted by one Deputy Superintendent		4		7,704	4,311		94,712	Dajee Ling
				42		19,649	22,770		1,01,924	Dhanshet
						774	43,160		68,147	Bogra
						236,225	21,644		1,310,771	Rajshahye
	By licensed vaccinators	Total				715	18,382		2,111,972	Kungroo
						1,017	1,010		6,642	Maldah
			7	(c) 46	(c) 46	260,381	109,967			
			1	12		6,400			4,131	Dinapore
Dajee Ling	By licensed vaccinators	Total		7		87,22			40,173	Bansport
			1	11		37,480			68,147	Bogra
			7	8		12,019			11,634	Rajshahye
			3	9	46	29	64,854	27,098		
	By licensed vaccinators	GRAND TOTAL	10	10	92	74	930,218	1,36,906		

Statement showing particulars of Vaccinations in the

Ranchi	Surgeon G. C. Roy M.D. Officiating Superintendent	3	3	10	20	50,442	13,818		306,510	Palamow
--------	---	---	---	----	----	--------	--------	--	---------	---------

Statement showing particulars of Vaccinations in the

Senthal Pergunnahs	Baboo Mothoora Nath Sen Deputy Superintendent	3	1	18	13	42,822	30,906	Senthal Pergunnahs	1,279,287	Rajmehal, Pakoor and Godda
--------------------	---	---	---	----	----	--------	--------	--------------------	-----------	----------------------------

(a) 25 vaccinations sanctioned, but 21 employed
(b) And 8 apprentices
(c) And 39 ditto

Superintendence in the Metropolis, Lower Provinces, during the year 1876-77.

Metropolitan Circles during the year 1876-77.

Darjeeling Circle during the year 1876-77

Ranche Circle during the year 1876-77

Southal Pergunnahs Circle during the year 1876-77

(1) In rules	repetition	cases
(2) Diff.	241	ditto
(3) I to	341	ditto
(4) Date	27	ditto

TABLE

Statement showing particulars of Vaccinations in the

1	2	3		4		5		6	7	8
CIRCLES	Name and rank of Superintendent	Number of Native Superintendents or Head Vaccinators		Number of Vaccinators		Total number of persons vaccinated		Collectorate, Political Agency, or Native State in which vaccinations were performed during the year	Population in area included in last column	Name of portion of district or of town
		1876-77	1875-76	1876-77	1875-76	1876-77	1875-76			
Eastern Bengal	Mr. A. Lyons, 1st class Apothecary Superintendent	7	6	(a) 48	56	140,534	96,840	Dacca and Furridd pore	Dacca 1,852,909 Furridd pore 1,012,589	Dacca district— Harirampur, Nowabgunge, Srinagar, Moonshuggunge, Jafargunge, Manickgunj and Naraingunge Furridd pore district— Furridd pore, Badarpore, Awanpore, Belgachia, Pangsha, Thoochna, Pulou, Shichur, Deorah, Muksohpore, Madripore, and Golaundo

Statement showing particulars of Vaccinations in the

Orissa	Pratosh Halder Assistant Surgeon Superintendent	3	1	(b) 21	(a) 10	24,868	1,203	Cuttack		Thana Dhurnasalla including outposts of Borchna, Khondit, Koryo and Bahban drapora thanas. Aul Jajpore including outposts of Boral Venkappa and portion of thana Dhamnagar in Bhatpur and thana Patta munda and a portion of Kendrapara
--------	---	---	---	--------	--------	--------	-------	---------	--	---

Statement showing particulars of Vaccinations in the

Behar	Daboo Kally Das Bose Assistant Surgeon Superintendent	4		(c) 24	16	11,423	4,928	Patna	1,570,038	Thanas Bankipore, Dinapore, Munger, and Bikram of the Patna district and the villages lying beyond the municipal limits of the city thanes Patna and Bankipore
GRAND TOTAL		48	42	325	288	1,108,720	706,519			

(a) And 22 apprentices
(b) And 9 ditto
(c) And 8 ditto

No 1—concluded

Eastern Bengal Circle during the year 1876-77

9													10				11	1
Primary Vaccination													Re vaccination				Percentage of successful cases excluded from those known from the total	
A		B						C			D		A	B	C	D	In primary vaccination	In secondary vaccination
Males	Females	Christians	Hindus	Muslimans	Other castes	Under 1 year	Above 1 year	Successful	Unsuccessful	Unknown	Total	Total	Successful	Unsuccessful	Unknown	Total		
75,732	75,776	643	62,953	85,870	10	11,137	138,367	149,150	327	50	(5)149,534		30	10		40	99.74	75
																		2,130

Orissa Circle during the year 1876-77

13,074	11,180	14	3,754	11,111	1,996	2,394	14,455	2,015	15	(1) 1,811							98.9	829
--------	--------	----	-------	--------	-------	-------	--------	-------	----	-----------	--	--	--	--	--	--	------	-----

Behar Circle during the year 1876-77

6,407	4,793	8	10,030	1,357	1,347	10,055	10,903	2,811	211	11,400			4	10		23	51	17.30	9.06
608,049	544,880	2,147	579,100	522,333	44,132	1,514	1,136,853	9,881	7,000	1,163,800			3,418	17,341	4	20,630	99.13	10.58	

(5) In 1,434 repetition cases

Ditto 8

Thirty repetition cases (3 of Presidency Vaccine Circle and 27 of Sonthal Morgunahs Vaccine Circle) have been included under age caste as they are primary vaccinants.

TABLE II.

Statement showing the monthly number and results of the Vaccination performed in each Circle of Superintendence in the Metropolis, Lower Provinces, and Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, Behar, Orissa, and Eastern Bengal Vaccine Circles, during the year 1876-77.

1	2	3	4	5			6	7
Circles of superintendence	Months	District in which operations were chiefly conducted in each month	Total number vaccinated.	RESULTS			Total.	Average percentage of successful, excluding those unknown
				Successful.	Unsuccessful, including doubtful.	Unknown.		
NORTH DIVISION	1876.							
	April	Town, primary	93	92		1	93	100
		Ditto, re-vaccination	3			3	3	
		Suburbs, primary	44	44		44	44	100
		Coolie depôt, ditto	129	129			129	100
	May	Ditto, re-vaccination	1,298	1,133	1,133	11	1,298	11 82
		Town, primary	23	22	1		23	95 65
		Ditto, repetition	1	1			1	100
		Suburbs, primary	20	20			20	100
	June	Coolie depôt, ditto	108	108			108	100
		Ditto, re-vaccination	1,485	226	1,258	1	1,485	15 22
		Town, primary	11	11			11	100
		Suburbs, ditto	36	36			36	100
	July	Coolie depôt, ditto	108	108			108	100
		Ditto, re-vaccination	940	109	778	4	940	17 04
		Suburbs, primary	46	46			46	100
		Coolie depôt, ditto	69	68			68	100
	August	Suburbs, primary	591	103	488		591	17 43
		Ditto, ditto, re-vaccination	41	41			41	100
		Coolie depôt, ditto	84	84			84	100
		Ditto, re-vaccination	548	101	447		548	18 43
	September	Town, primary	4	4			4	100
		Suburbs, ditto	41	41			41	100
		Coolie depôt, ditto	27	27			27	100
		Ditto, re-vaccination	821	56	265		321	17 44
	October	Town, primary	156	153	3		156	98 07
		Ditto, re-vaccination	1				1	
		Suburbs, primary	125	123			125	100
		Coolie depôt, ditto	71	71			71	100
	November	Ditto, re-vaccination	910	124	782		910	14 06
		Town, primary	445	445			445	100
		Ditto, re-vaccination	31	1	30		31	3 22
		Suburbs, primary	451	451			451	100
	December	Coolie depôt, ditto	91	91			91	100
		Ditto, ditto, re-vaccination	1,179	183	991	5	1,179	15 58
		Town, primary	530	530			530	100
		Ditto, re-vaccination	5		2	3	5	
	1877	Suburbs, primary	575	572			575	100
		Ditto, re-vaccination	2		2		2	
		Coolie depôt, primary	117	117			117	100
		Ditto, re-vaccination	1,372	232	1,137	3	1,372	16 04
	January	Town, primary	573	570		3	573	100
		Ditto, re-vaccination	35	1	34		35	2 85
		Suburbs, primary	390	390			390	100
		Ditto, re-vaccination	2		2		2	
	February	Coolie depôt, primary	197	197			197	100
		Ditto, re-vaccination	2,098	281	1,811	6	2,098	13 43
		Town, primary	878	872	2	4	878	99 77
		Ditto, repetition	121	1	116	5	121	
	March	Suburbs, primary	514	513		1	514	100
		Ditto, re-vaccination	6		6		6	
		Coolie depôt, primary	293	293			293	100
		Ditto, re-vaccination	2,446	344	2,102		2,446	14 06
	Total	Town, primary	987	987			987	100
		Ditto, re-vaccination	10		10		10	
		Suburbs, primary	491	489	2		491	99 59
		Ditto, re-vaccination	4	1	3		4	25
	1876	Suburbs, repetition	1	1			1	100
		Coolie depôt, primary	239	239			239	100
		Ditto, re-vaccination	2,386	285	2,101		2,386	11 52
	Total	Town, primary	3,700	3,686	6	8	3,700	99 83
		Ditto, re-vaccination	206	2	193	11	206	1 02
		Ditto, repetition	2	2			2	100
		Suburbs, primary	2,780	2,774	2	4	2,780	99 92
	1876	Ditto, re-vaccination	14	1	13		14	7 14
		Ditto, repetition	1		1		1	
		Coolie depôt, primary	1,530	1,530			1,530	100
		Ditto, re-vaccination	15,578	2,200	13,288	30	15,578	14 53
SOUTH DIVISION	April	Town, primary	64	64			64	100
		Suburbs, ditto	189	189			189	100
	May	Town, primary	17	17			17	100
		Ditto, re-vaccination	3	1	1		3	50
	June	Suburbs, primary	84	84			84	100
		Town, primary	18	18			18	100
	July	Ditto, re-vaccination	6	2	3		6	40
		Suburbs, primary	56	56			56	100
	August	Coolie depôt, ditto	8	8			8	100
		Ditto, re-vaccination	388	99	289		388	25 51
	September	Town, primary	26	26	1		26	96 15
		Ditto, re-vaccination	155	48	107		155	30 96
	October	Suburbs, primary	37	37			37	100
		Ditto, re-vaccination	547	132	415		547	24 13

* Including 57 cases of success modified by previous protection, the percentage of success amounts to 30 28.
 † Ditto 3 ditto ditto ditto ditto ditto
 ‡ Ditto 2,670 ditto ditto ditto ditto ditto

TABLE II—continued.

1	2	3	4	5.			6	7	
Circles of superintendence.	Months	District in which operations were chiefly conducted in each month.	Total number vaccinated.	RESULTS			Total	Average percentage of successful, excluding those unknown	
				Successful	Unsuccessful, including doubtful	Unknown			
SOUTH DIVISION—continued	1876								
	August	Town, primary Ditto, re-vaccination Suburbs, primary Coolie de pôt, re-vaccination	12 4 36 821	12 1 36 204	 613	 230	12 4 36 821	100 43 33 100 25 33	
	September	Town, primary Suburbs, ditto Coolie de pôt, re-vaccination Town, primary	16 62 304 89	16 62 74 88	 230 1	 304 89	16 62 304 89	100 100 24 34 98 87	
	October	Ditto, re-vaccination Suburbs, primary Coolie de pôt, re-vaccination Town, primary	1 154 744 274	 158 176 274	 572 1	 744 3	1 158 744 3	1 100 23 63 100	
	November	Ditto, re-vaccination Suburbs, primary Ditto, re-vaccination Town, primary	3 674 116 306	3 670 22 306	2 4 94	 306	3 674 116 306	33 33 99 40 18 98 100	
	December	Suburbs, ditto Ditto, re-vaccination	765 1,622	765 205	 1,267	 1,622	765 1,622	100 17 41	
	1877.								
	January	Town, primary Ditto, re-vaccination Suburbs, primary	351 1 40 982	351 41 982	 113	 100	351 156 982	100 27 56 100	
	February	Town, ditto Ditto, re-vaccination Suburbs, primary Town, ditto	608 40 1,663 30	608 17 1,652 599	 77 1	 1,053 599	608 96 1,053 599	100 19 79 99 93 100	
	March	Ditto, re-vaccination Suburbs, primary	6 1,007	2 1,006	4 1	 1,907	6 1,907	33 33 99 94	
	Total	Town, primary Ditto, re-vaccination Suburbs, primary Ditto, re-vaccination Coolie de pôt, primary Ditto ditto, re-vaccination	2,180 427 6,663 1,634 8 2,508	2,178 117 6,597 247 8 689	2 310 6 1,361 2,119	 1,361 2,119	2,180 427 6,664 1,638 8 2,808	99 90 27 40 99 90 17 52† 100 24 53‡	
	METROPOLITAN CIRCLES	1876							
		April	"						
		May	"						
		June	24-Pergunnahs	9		3		3	
		July	Ditto	57	30	18		57	69 43
		August	Ditto	62	50	12		62	80 64
		September	Nuddea	1,504	1,407	37	2	1,504	97 41
		October	Ditto	14,478	14,400	64	3	14,478	99 55
		November	Ditto	22,450	22,402	42	6	22,450	99 78
		December	Ditto	27,722	27,680	32	1	27,722	99 84
		1877							
		January	Pubna	20,303	20,301	20	3	20,303	99 85
		February	Ditto	16,246	16,200	23	4	16,233	99 98
March		Ditto	10,107	10,080	77		10,107	99 62	
1876.		Total	119,012	118,056	537	19	119,012	99 7	
April		"							
May		"							
June		"							
July		"							
August		Nuddea	2,116	2,102	13	1	2,116	99 33	
September		Ditto	18,407	18,402	62	23	18,807	98 5	
October		Ditto	10,514	10,414	97	33	10,514	99 65	
November		Ditto	10,584	10,141	87	10	10,584	99 65	
1877.									
January	Ditto	16,620	16,609	83	20	16,620	99 65		
February	Nuddea and Moorshedabad	10,827	10,758	54	15	10,827	99 5		
March	Ditto	11,574	11,520	52	2	11,574	99 65		
1876.	Total	101,212	100,676	450	118	101,242	99 65		
April	Burdwan	3,984	3,973	11		3,984	99 7		
May	Ditto	450	448	2		450	99 55		
June	Ditto	210	210			210	100		
July	Ditto	110	110			110	100		
August	Ditto	125	124	1		125	99 2		
September	Hooghly, Bardwan, and 24-Pergunnahs	2,203	2,273	18		2,293	99 21		
October	Ditto ditto	22,484	22,467	16	1	22,484	99 98		
November	Ditto ditto	34,891	34,854	30	7	34,891	99 91		
December	Ditto ditto	42,278	42,256	13	9	42,278	99 96		
1877									
January	Ditto ditto	44,598	44,587	10	1	44,598	99 97		
February	Ditto ditto	67,442	67,427	15		67,442	99 97		
March	Ditto ditto	82,822	82,788	25	9	82,842	99 95		
Total		301,696	301,528	141	27	301,696	99 95		
GRAND TOTAL		521,930	520,800	928	162	521,950	99 83		

* Including 169 cases of success modified by previous protection; the percentage of success amounts to 80 89
† Ditto 910 ditto ditto 73 07
‡ Ditto 1,661 ditto ditto 80 13

TABLE No. II—continued.

1	2	3	4	5			6	7
Circles of superintendence.	Months.	District in which operations were chiefly conducted in each month	Total number vaccinated	RESULTS			Total.	Average percentage of successful, excluding those unknown
				Successful.	Unsuccessful, including doubtful	Unknown		
DARJEELING CIRCLE	1876							
	April	Darjeeling, Dinagepore, and Bogra	1,892	1,777	115		1,892	93.92
	May	Darjeeling and Dinagepore	1,781	1,677	101	3	1,781	94.32
	June	Ditto ditto	1,085	1,040	140	5	1,085	91.06
	July	Bungpore	119	108	8	3	119	95.49
	August	Maldah	341	341	0	1	341	97.35
	September	Darjeeling	459	407	52		459	88.67
	October	Ditto and Rajshahye	4,083	4,012	117	34	4,168	97.16
	November	Ditto ditto	38,081	37,547	302	232	38,081	99.20
	December	Ditto ditto	42,454	41,868	319	267	42,454	99.24
	1877							
	January	Ditto ditto	52,706	51,709	449	448	52,706	99.14
	February	Ditto ditto	55,223	54,394	438	393	55,223	99.32
	March	Ditto ditto		55,799	308	264	55,799	99.45
	Total		265,275	261,227	2,353	1,605	265,275	99.10
RAJSHAH CIRCLE	1876							
	April	Dinagepore	126	124	2		126	98.41
	August	Bogra	15	15			15	100
	September	Rajshahye	180	167	18	5	180	89.71
	October	Ditto and Dinagepore	1,289	1,285	35	19	1,285	97.24
	November	Dinagepore, Bungpore, Bogra, and Rajshahye.	14,548	14,363	168	17	14,548	99.54
	December	Ditto ditto	14,164	13,934	186	44	14,164	99.68
	1877.							
	January	Ditto	13,517	13,325	177	14	13,517	98.68
	February	Ditto	11,349	11,193	131	25	11,349	98.84
	March	Ditto	9,697	9,543	98	23	9,697	98.98
	Total		64,855	63,893	815	147	64,855	98.74
SOUTH PARGANAS	1876							
	April	Palamow	65	61		1	65	100
	May	Ditto	109	57	49	3	109	53.77
	June	Ditto	53	28	25		53	52.83
	July	Ditto	29	27		2	29	100
	August	Ditto	30		30		30	
	September	Ditto	64	5	59		64	7.81
	October	Ditto	4		4		4	
	November	Ditto	2,033	1,851	127	55	2,033	93.67
	December	Ditto	7,451	6,763	304	381	7,451	95.09
	1877.							
	January	Ditto	9,443	8,275	453	715	9,443	94.50
	February	Ditto	14,155	12,951	415	939	14,335	96.67
	March	Ditto	16,820	14,742	601	1,417	16,820	95.72
	Total		50,442	44,763	2,103	3,518	50,442	95.39
EASTERN BENGAL	1876							
	April	Rajmohal and Pakour	648	638	13	2	648	97.98
	May	Ditto ditto	473	470	2	1	473	99.57
	June	Ditto ditto	245	235	5	5	245	97.91
	July	Ditto and Dooomka	68	60	2		68	97.05
	August	Ditto ditto	26	20			26	100
	September	Rajmohal	18	18			18	100
	October	Ditto and Pakour	4,646	4,590	36		4,646	99.21
	November	Ditto ditto	8,727	8,618	71	38	8,727	99.18
	December	Ditto, Pakour, and Godda	8,169	8,120	41	8	8,169	99.49
	1877							
	January	Ditto ditto	7,169	7,098	39	26	7,169	99.45
	February	Ditto ditto	6,383	6,220	26	30	6,383	99.53
	March	Ditto ditto	6,385	6,341	38	6	6,385	99.40
	Total		42,849	42,411	273	165	42,849	99.36
Dacca and Furreedpore.	1876							
	April	Primary	1,678	1,667	11		1,678	99.34
	May	Ditto	205	205	2		205	99.02
	June	Ditto	168	147	11		168	88.03
	July	Ditto	436	436			436	100
	September	Ditto	89	88	1		89	98.87
	October	Primary	4,835	4,866	19		4,835	90.01
		Re-vaccination	4	4			4	100
	November	Primary	19,426	19,367	52	7	19,426	99.69
		Repetition	1	1			1	100
		Re-vaccination	7	6	1		7	85.7
	December	Primary	28,000	27,954	41	5	28,000	99.83
		Repetition	11	10	1		11	90.9
		Re-vaccination	15	14	1		15	93.33
Dacca and Furreedpore.	1877							
	January	Primary	27,213	27,141	71	1	27,213	99.73
		Repetition	13	12			13	92.3
		Re-vaccination	5	3			5	60
	February	Primary	26,874	26,807	35	32	26,874	99.75
		Repetition	11	11			11	100
		Re-vaccination	7	2	5		7	22.57
	March	Primary	40,530	40,438	82	10	40,530	99.77
		Repetition	4	4			4	100
		Re-vaccination	2	1	1		2	50
	Total	Primary	149,404	149,114	325	55	149,404	99.74
		Repetition	40	38	2		40	95
		Re-vaccination	40	30	10		40	75

TABLE No II—concluded

1 Circles of superintendence	2 Months	3 District in which operations were chiefly conducted in each month	4 Total number vaccinated	5 RESULTS			6 Total	7 Average percentage increase of successful excluding those unknown
				Successful	Unsuccessful including doubtful	Unknown		
ORISSA	1876		.					
	November	Cuttack	1 528	1 477	51	20	1 528	97.90
	December	Do.	4 919	4 877	22	20	4 919	99.55
	1877							
	January	Do.	7 670	7 570	58	42	7 670	99.23
	February	Do.	6 030	6 475	9	54	6 030	99.52
	March	Do.	4 121	4 053	58	10	4 121	98.58
		Total	24 868	24 452	266	150	24 868	98.92
	1876							
	April	City tharav of Patna and Bankipore	28	28			28	100
BENGAL	May		21	18	1	2	21	99.47
	June		41	41			41	100
	July		42	42			42	100
	August		37	37	5		37	99.48
	September		21	21			21	100
	October	Thanas Bankipore, Dinapore, Muzair and Bikram of the Patna district and the villages lying beyond the municipal limits of the city tharav of Patna and Bankipore	114	104	6	2	114	99.24
	November		1 197	1 133	33	28	1 197	97.66
	December		2 128	1 99	52	51	2 128	96.19
	1877							
	January		2 069	2 023	41	35	2 069	98.33
	February		2 673	2 570	63	40	2 673	98.52
	March		3 022	2 885	96	31	3 022	98.97
		GRAND TOTAL	11 423	10 907	297	29	11 423	98.08

TABLE No III

Statement showing Expenditure of Vaccine Department in each Circle of Superintendence in the Metropolis, Lower Provinces, Metropolitan, Darjeeling, Ranchee, Sonthal Pergunnahs, Eastern Bengal, Orissa, and Behar Vaccine Circles during 1876-77

1	2	3	4	5	6	7	8
Circle	PARTICULARS	Sanctioned	Expended	Total number vaccinated	Percentage of successful cases excluding those unknown from the total	Cost of each successful case excluding cases of modified success after re vaccination	REMARKS
CALCUTTA AND SUBURBS	<i>Paid by Government</i>	Rs. A P	Rs. A P			Rs. A P	
	Office establishment	884 0 0	884 0 0				
	2 Native Superintendents	3 600 0 0	4 200 0 0				
	4 Vaccinators	360 0 0	360 0 0				
	Contingencies including office rent	1 200 0 0	894 13 6				
	Travelling allowance	20 0 0	72 0 0				
	Cost of postage labels	23 0 0	23 0 0				
	Total	6 787 0 0	7 053 13 6				
	<i>Paid by Town Municipality</i>						
	3 Head Vaccinators at Rs 15 each per mensem						
METROPOLITAN CIRCLES	3 Vaccinators at Rs 12 each per mensem	1 980 0 0	1 524 0 0				
	6 Vaccinators at Rs 10 each per mensem						
	4 Vaccinators at Rs 8 each per mensem						
	Contingencies at Rs 18 5 4 per mensem	220 0 0	220 0 0				
	Total	2 200 0 0	1 744 0 0				
	<i>Paid by Suburban Municipality</i>						
	3 Head Vaccinators at Rs 15 each per mensem						
	3 Vaccinators at Rs 12 each per mensem	1 784 0 0	1 784 0 0				
	7 Vaccinators at Rs 10 each per mensem						
	1 Vaccinator at Rs 8 per mensem						
	Contingencies at Rs 16 10 8	200 0 0	200 0 0				
	Total	1 984 0 0	1 984 0 0				
	GRAND TOTAL	10 951 0 0	10 781 13 6	37 472	53 70	0 8 4	
METROPOLITAN CIRCLES	<i>Paid by Government</i>						
	Superintendent's pay and residency house rent	8 100 0 0	8 100 0 0				
	3 Native Superintendents at Rs 200 each per mensem	7 00 0 0	7 200 0 0				
	12 Head Vaccinators at Rs 15 each per mensem	2 000 0 0	1 905 2 6				
	78 Ordinary Vaccinators at Rs 10 each per mensem	8 800 0 0	8 600 4 10				
	1 Clerk 1 at Rs 50 and 2 at Rs 30 each per mensem	1 320 0 0	1 320 0 0				
	24 Apprentices at Rs 5 each per mensem	1 250 0 0	1 274 3 9				
	9 Peons at Rs 6 each from September to March						
	3 Peons from April to August and 1 at Rs 7 throughout the year and 1 Sweeper at Rs per mensem throughout the year	570 0 0	570 0 0				
	Travelling allowance	8 12 0 0	8 639 0 0				
DARJEELING CIRCLE	Office rent at Rs 25 per mensem	300 0 0	300 0 0				
	Cost of postage labels	41 0 0	41 0 0				
	Contingencies	710 0 0	470 9 3				
	Total	38 609 0 0	38 475 4 4	521,350	99 82	0 1 2	
	<i>Paid by Government</i>						
	1 Superintendent	9 600 0 0	9 000 0 0				
	1 Deputy Superintendent	495 0 0	684 8 2				
	3 Inspectors	1 340 0 0	1 340 0 0				
	7 Native Superintendents	1 584 0 0	1 200 0 0				
	1 Head Vaccinator	1 0 0 0	90 0 0				
	45 Vaccinators	4 440 0 0	4 017 2 5				
	30 Apprentices	2 158 0 0	1 008 15 7				
	1 Clerk	500 0 0	300 0 0				
	3 Peons	180 0 0	130 9 2				
	Travelling allowance	1 050 0 0	1 098 14 0				
	Contingencies	200 0 0	610 14 2				
	Total	22 015 0 0	20,386 15 6	330,218	98 03	0 1 0	

* Paid from contingencies

TABLE No III—concluded

1	2	3	4	5	6	7	8
Circle	PARTICIPIANS	Sanctioned	Expended	Total number vaccinated	Percentage of successful cases, excluding those unknown from the total	Cost of each successful case, excluding cases of modified success after re vaccination	REMARKS
BAYANNE CIRCLE	<i>Paid by Government</i>	Rs A P	Rs A P			Rs A P	
	1 Superintendent	7 200 0 0	4 839 7 0				
	3 Native Superintendents	838 0 0	612 8 8				
	20 Vaccinators	1 810 0 0	1 118 4 6				
	Office establishment	300 0 0	300 0 0				
	Travelling allowance	741 0 0	592 0 7				
	Postage labels	11 0 0	5 0 0				
	Cost of new hill tent	296 0 0	206 0 0				
	Contingencies	247 0 0	192 2 9				
	Total	11 481 0 0	8 520 7 4	50 44	90 6	0 2 11	
SOUTHERN PARGANAH CIRCLE	<i>Paid by Government</i>						
	1 Deputy Superintendent	1 700 0 0	1 200 0 0				
	3 Head Vaccinators at Rs 15 and Rs 10 per mensem	450 0 0	431 4 10				
	6 Vaccinators at Rs 12 and Rs 8 per mensem						
	6 Vaccinators at Rs 10 and Rs 6 10-8 per mensem	1 800 0 0	1 688 8 10				
	6 Vaccinators at Rs 8 and Rs 5 3 4 per mensem						
	1 Lion at Rs 5 per mensem	60 0 0	60 0 0				
	Travelling allowance	70 0 0	69 9 0				
	Cost of postage labels	18 0 0	9 16 0				
	Total	4 633 0 0	4 03 5 5	42 822	99 15	0 1 6	
EASTERN BENGAL CIRCLE	<i>Paid by Government</i>						
	1 Superintendent	4 200 0 0	4 200 0 0				
	1 Deputy Superintendent		01 0 0				
	6 Head Vaccinators	1 680 0 0	1 34 4 11				
	10 Ordinary Vaccinators	6 480 0 0	4 6 4 7				
	24 Extra ditto		317 4 0				
	Office establishment	6 4 0 0	466 1 6				
	Cost of postage labels	13 0 0	11 7 6				
	Contingencies	267 0 0	322 12 1				
	Batta for Deputy Superintendent, Head Vaccinators, Vaccinators and Apprentices for six months at 1/10th of their pay		1 1 0 9				
	Total	12 574 0 0	11 11 12 2	143 554	99 77	0 1 3	
CHITRA CIRCLE	<i>Paid by Government</i>						
	1 Superintendent	2 150 0 0	1 877 6 7				
	3 Head Vaccinators	775 0 0	444 0 0				
	21 Vaccinators	3 100 0 0	1 509 12 0				
	9 Apprentices		280 0 0				
	1 Clerk	300 0 0	300 0 0				
	1 Peon	72 0 0	72 0 0				
	Travelling allowance	507 0 0	479 12 0				
	Office rent		101 15 4				
	Cost of postage labels	2 0 0	2 0 0				
	Contingencies	295 0 0	239 5 0				
	Total	7 204 0 0	7 068 4 3	21 868	98 92	0 1 5	
BEHAR CIRCLE	<i>Paid by Government</i>						
	1 Superintendent	2 150 0 0	2 150 0 0				
	3 Head Vaccinators	775 0 0	440 11 0				
	20 Ordinary Vaccinators	3 100 0 0	1 723 4 4				
	1 Clerk	300 0 0	300 1 0				
	1 Peon	72 0 0	71 12 10				
	Travelling allowance	507 0 0	507 0 0				
	Contingencies	400 0 0	214 9 0				
	Total	7 204 0 0	5 510 6 3	11 423	97 34	0 7 0	
	GRAND TOTAL	1 14 501 0 0	1 04 242 4 9	1 168 7 9	97 68	0 1 5	

TABLE No IV

Statement showing the results of the year 1876-77, as compared with those of each of the previous five years in the Metropolis, Metropolitan, Darjeeling, Ranchie, Sonthal Pergunnahs, Eastern Bengal, Orissa, and Behar Vaccine Circles

Circles	Years	Total number of persons vaccinated	Number successful	Ratio per cent of successful cases excluding those unknown from the total	NUMBER OF VACCINATORS				Cost of whole vaccine establishment	Cost of travelling allowances and contingencies	Total cost	Cost of each successful case excluding cases of modified success after re vaccination
					A	B	C	D				
					Paid by the State	Paid from other sources	Total	Number previously employed as inoculators	Rs A P	Rs A P	Rs A P	Rs A P
Calcutta and Suburbs	1871-72	20 535	14 014	70 "	3	24	27	10	11 27 0 0	23 0 0 0	12,643 0 0	0 14 54
	1872-73	31 481	18 216	58 60	3	24	27	10	9 341 8 9	2 310 13 0	11 501 6 3	0 10 11
	1873-74	38 796	2 052	51 95	3	24	27	10	8 11 0 0	1 948 1 5	10 000 1 5	0 8 0
	1874-75	41 900	23 351	55 84	3	24	27	10	8 162 0 0	1 970 11 9	10 132 11 9	0 6 11
	1875-76	40 173	21 190	53 14	3	24	27	9	7 019 4 7	1 927 11 2	9 540 15 9	0 7 2
	1876-77	47 474	20 132	53 79	3	24	27	9	8 712 0 0	2 049 13 6	10 761 13 6	0 8 6
Metropolitan Circles	1871-72	91 516	90 994	99 55	96		96	9	28 619 2 3	6 916 10 8	34,935 12 11	0 6 1
	1872-73	267 074	264 154	99 72	90		90	11	24 9 7 3 5	7 870 1 3	11 797 13 8	0 1 1
	1873-74	3 6 076	305 9 18	90 80	91		90	21	25 9 9 10 0	9 057 5 1	35 6 6 15 1	0 1 11
	1874-75	4 2 385	401 481	96 80	90		90	20	28 542 15 6	9 931 13 1	37 6 4 12 7	0 1 1
	1875-76	4 1 568	470 009	96 78	90		91	20	24 170 15 6	8 781 6 6	37 959 6 0	0 1 1
	1876-77	5 1 030	5 0 861	99 82	90		90	20	20 065 11 1	9 409 9 8	38 4 5 4 4	0 1 1
Darjeeling Circle	1871-72	111 700	97 982	81 18	42	3	45	10	16 531 1 7	1 323 2 10	17 854 4 5	0 2 1
	1872-73	108 399	100 895	93 97	42	1	43	9	16 579 5 7	1 006 3 4	18 284 8 11	0 2 10
	1873-74	97 757	94 129	96 75	4		42	11	16 376 8 3	1 450 14 4	17 827 6 7	0 3
	1874-75	120 680	116 849	94 43	4		42	8	16 556 9 8	1 265 14 9	17 822 8 5	0 2 6
	1875-76	136 905	133 933	96 07	45		45	11	1 3 7 10	1 891 4 9	19 153 12 7	0 2 1
	1876-77	330 18	327 591	99 03	46		46	3	16 671 3 4	1 715 12 2	20 386 15 6	0 1
Ranchie Circle	1871-72	51 913	47 508	98 19	20		20	61	9 083 6 7	4 0 0	10 067 6 7	0 4
	1872-73	36 518	35 216	97 77	20		20		11 178 10 9	1 167 15 4	11 246 10 6	0 5 6
	1873-74	37 411	35 177	96 91	20		20		10 631 1 8	937 8 6	11 008 10 2	0 5 1
	1874-75	27 343	24 487	87 00	1		21		10 334 14 7	1 111 9 8	11 436 8 0	0 7 4
	1875-76	18 818	11 857	92 00	20		20		10 134 3 0	639 8 6	10 773 11 6	0 14 6
	1876-77	50 442	44 053	90 60	20		20		7 235 4 2	1 085 3 2	8 320 7 4	0 2 11
Sonthal Pergunnahs Circle	1871-72	8 352	7 561	90 86	6		6		2 122 0 0	331 10 0	2 453 10 0	0 4 8
	1872-73	11 071	10 490	95 08	6		6		2 181 0 0	403 3 6	2 687 3 6	0 4 1
	1873-74	15 039	14 456	96 15	6		6		2 284 0 0	4 3 8 0	2 707 8 0	0 2 11
	1874-75	22 867	21 376	93 90	25		25		3 062 6 7	284 0 0	3 326 6 7	0 2 5
	1875-76	30 300	29 733	98 23	13		13		3 540 9 7	348 13 6	3 889 7 1	0 2 1
	1876-77	4 822	42 411	90 35	21		21		3 357 13 8	045 7 9	4 008 5 5	0 1 6
Eastern Bengal Circle	1872-73	47 549	47 417	99 72	39		39	4	4 724 11 7	240 0 0	4,964 11 7	0 1 8
	1873-74	78 491	78 075	99 41	56		56	4	9 064 0 0	438 13 0	9 502 13 0	0 1 11
	1874-75	110 980	110 463	99 50	63		63	7	11 284 0 0	338 4 0	11 622 4 0	0 1 8
	1875-76	96 640	96 648	99 70	61		61	34	10 804 12 4	525 13 10	11 330 10 2	0 1 10
	1876-77	149 584	149 182	99 77	54		54	25	11 677 6 9	534 3 7	11 911 12 2	0 1 3
Orissa Circle	1875-76	1 298	1 211	94 00	10		10		1 402 14 8	255 11 4	1 658 9 7	1 5 10
	1876-77	24 868	24 455	98 92					4,495 2 9	371 1 5	5 066 4 3	0 3 3
Behar Circle	1875-76	4,328	3 665	87 09	30		30	8	1 068 0 0	358 13 6	1 426 13 6	0 6 3
	1876-77	11 423	10,908	97 34	28		28	13	4,594 12 9	721 9 6	5 316 6 3	0 7 9

TABLE No. V.

TABLE

Statement showing particulars of Vaccinations in each of the three Circles

1	2	3		4		5		6	7	8	A		
		Number of Native Superintendents attached to the dispensary		Number of vaccinators attached to the dispensary		Total number of persons vaccinated					Sex		
		1876-7	1875-76	1876-7	1875-76	1876-7	1875-76				Males	Females	
Circle of medical superintendence	NAME AND RANK OF SUPERINTENDENTS							Collectorate, Political Agency or Native State for the population of which the dispensary is provided	Population (area included in last column)	Names of dispensaries			
PRESIDENCY CIRCLE	C H Joubert civil surgeon	1		1	1	783	973	Burdwan	2 034 74	Burdwan	421	357	
			1		537					Jhanabad	317	241	
	R L Dutt M.D. civil surgeon			(1) 2	(2) 6	14 758	1 427	37 135	Bankoora	6 772	Bankoora	7 472	6 846
	A Fitzgibbon officiating civil medical officer			(3) 1	5	840	348	Deerbhoom	605 921	Deerbhoom	1 345	1 191	
	R J Mathew civil surgeon			(4) 1	(5) 3	70 847	39 046	Midnapore	2 340 463	Midnapore	41 062	39 780	
	W H Gregg civil surgeon			2	3	2 388	3 783	Hooghly	3 311 007	Hooghly	1 345	1 191	
	J G Fisher surgeon major civil surgeon			4	1	1 747	387			H. W. H.	844	820	
	J Groche M.D. civil surgeon			1	1	917	944	Scramp	3 1	39			
	J G French M.D. surgeon major civil surgeon			1		772	255	24 Pargunnahs	2 310 047	Byddabatty	101	114	
				1	1	204	310			Barnet	498	281	
				1		313				Gurukul	101	114	
	C K W Bensley civil surgeon			1		204		Nudda	1 312 795	K. Shashai	101	114	
				1		313				L. L.	101	114	
	V Richards civil medical officer			1	8	24				R. Shashai	101	114	
				1		204				S. Shashai	101	114	
	E T Wright M.D. civil surgeon			1		313				M. Shashai	101	114	
				1		204				K. Shashai	101	114	
	P A Minos (honorary surgeon major) civil surgeon			1	1	317	107	Maldah	670 420	Maldah	170	151	
						7				Chanchal	1	1	
	E C Bensley M.D. civil surgeon			1	1	707	437	Rajshahye	1 310 729	Baulah	478	314	
				1	1	112	606			Natore	314	241	
					1	11	560			L. Shashai	101	114	
				80	1			I. Shashai	101	114			
				53	19			K. Shashai	101	114			
				51	10			K. Shashai	101	114			
			3	203	706			B. Shashai	101	114			
								Boilbar	8	13			
			1*	2	28	Rangpore	2 140 378	Rangpore	184	103			
			1*	1	200			Mohungunge	107	97			
			(1) 1	1	606	274		Uk. Shashai	101	114			
K D Ghose M.D. civil surgeon			1	1	210			B. Shashai	101	114			
			1	1	71	606		B. Shashai	101	114			
			1	1	432	11		K. Shashai	101	114			
			1	1	82	505		K. Shashai	101	114			
					482			K. Shashai	101	114			
E Sanleford civil medical officer			2	3	973	580	Bogra	689 487	Bogra district	571	422		
H M Davis civil surgeon			1		204	23	Pubna	1 211 594	Pubna	101	98		
			1	1	106	1 353			Doolya	2	2		
								Sehajunge	543	514			
W D Stewart civil surgeon			1		2 993		Cuttack	1 404 784	Cuttack	1 030	901		
			1		496				Ungool	207	181		
					57			Dhenkanal	43	14			
					103			Kendrapara	51	49			
G Price civil surgeon			2	2	671	612	Pooree	769 074	Pooree district	452	219		
R Gupta officiating civil surgeon			2	3	484	1 062	Balasore	770 232	Balasore	324	160		
I V Di Webber civil medical officer			2		443	1 501	Dinagapore	1 501 000	Dinagapore				
			3	6	1 430	1 790	Moorsheadabad	1 353 620	M. Shashai	937	408		
			2	4	780	2 330			Herhampore	361	15		
			1	1	44	67			Kandi	20	24		
S M Shircore surgeon major civil surgeon			1	1	21	98			Az. Shashai	241	75		
			1	1	123	91			Lakolia	48	48		
			1	1	1045	677		Jungpore	914	731			
Total		1		72	78	130 557	100 505			68 310	59 886		

(1) And 4) ex inoculator
(2) And 7) ditto
(3) And 8) ditto
* Included under sex cast

No. V.

of Medical Superintendence in the Province of Bengal during the year 1876-77.

9										10				11		12	
PRIMARY VACCINATION										RE-VACCINATION				Percentage of successful cases, excluding those unknown from the total		Average number of persons vaccinated by each vaccinator	
B				C			D	A	B	C	D						
Caste		Age		Results				Successful.	Unsuccessful, including those doubtful	Unknown	Total						
Christians.	Hindus.	Muslimans.	Other castes.	Under one year	Above one year	Successful	Unsuccessful, including those doubtful.	Unknown	Total	Successful.	Unsuccessful, including those doubtful	Unknown	Total	In primary vaccination	In secondary vaccination		
12	510	222		56	724	777	3	34	780	2	1		3	89 61	66 66	783	
2	470	72		19	532	409	25	26	537					90 80		551	
	1				3	3			671					95 04			
4	14,484	254		424	14,514	14,517	187	4	14,794					98 73		663 5	
	1,223	100		140	1,187	1,239	88		1,327					91 36			
	2,436			134	2,702	2,792	44		2,830	13			13	98 14	100		
	81			3	31	27	7		34					79 41			
57	66,988	3,548	9,250	18,846	61,001	76,061	3,473	294	70,528	15	2	2	19*	95 08	88 23		
46	1,640	600		735	1,551	1,069	263	54	2,298	47	53	2	102	88 21	47	1,194	
211	949	450	55	1,057	614	1,312	260	93	1,671	58	20		70	83 14	73 68	486 7	
6	611	69		62	844	898	8		906	1			1	96 11	100	107	
1	304	2		48	259	259	40	20	307					82 02		307	
3	502	264		14	751	741	21	7	760	1	2		3	97 24	39 33	772	
	23	176	95	43	251	276	5	13	284					98 23		204	
		No information			316	316			816					100		316	
6	315	22		1	342	338	5		343					98 54		343	
	182	78		51	229	236	13	13	260					95 14		260	
	280	100		80	300	345	35		380					10 79		380	
	154	109		99	105	264	28		263					100		263	
	25	3			29	28			28					100		28	
2	181	453	47	196	487	691	2		693	2			2	96 70	100	695	
3	122	155	2	12	270	275	7		282	3			3	97 51	100	285	
	18	41		5	54	51	8		59					86 44		50	
0	186	272	11	64	413	380	63	25	477	3			3	86 00	100	120	
	109	165	8	42	320	353	9		362					87 51		363	
	249	333		143	439	480	93		572					84 02		291	
	218	424		60	562	613	29		642					96 48		642	
	111	170		14	267	279	2		281					96 28		281	
	161	147		2	306	273	35		309	9			9	88 03	100	317	
	7				7	4	3		27 14					57 14			
1	183	560	48	120	686	686	50	3	730	30	14	3	53*	93 20	72	792	
	214	378		84	524	508	14		612					97 71		612	
	7	0		1	12	13			13					100			
	10	70		5	75	73		8	80					100			
	22	11		33	29	4			33					87 87			
	42	5		1	40	40	1		47	3	1		4	97 77	75		
	34	219		8	245	240	9	8	253					96 13			
	22			1	21	21	1		22	1			1	95 45	100		
	104	188		174	113	274	13		297					95 47		287	
	67	193		14	246	229	30		259	1			1	88 41	100	280	
	320	646		53	613	664	5	7	660					90 47			
	61	188		3	240	248			244	1			1	100	100		
	144	320		35	329	307	67		361	35	16		51	89 90	68 02	715	
	237	195		23	409	413	79		422					95 00		433	
	457	900	65	10	812	709	20	3	823					97 55		828	
	81	399		12	468	473	62	5	480	1	1		2	90 04	50	341	
	614	558	1	106	867	871	101		972	1			1	89 60	100	486 5	
	28	104		20	202	188	24		222	3			3	86 18	100	225	
	2				2	2			2								
	188	919		88	1,024	760	291		1,067	4	1		5	72 46	80	1,062	
60	2,133	34		403	2,137	2,085	505		2,540	320	123		445	80 11	72 23	407 1	
	492	4			496	280	236		486					51 44		486	
	50	7			57	34	16	7	67					98			
	58	45		4	99	99	4		102		1		1	96 07			
10	685	8	3	9	662	663	68		671					89 86		335 5	
122	318	44		86	398	310	83		393	40	42		91	78 88	53 84	212	
		No information			443	443			443					100		221 5	
2	1,080	341		800	1,135	1,283	188	14	1,455					90 28		478 1	
6	375	131	45	108	449	528	36	1	557	107	33	2	232	83 70	85 06	304 5	
	44			8	30	40			44					90 00		44	
	317	2	2	7	314	294	22	5	321					93 07		321	
	80	10		10	80	80	4		90					95 66		90	
1	664	980		81	1,564	1,293	338	15	1,645					79 27		1,645	
570	102,001	15,703	8,641	24,075	108,880	121,565	6,011	658	129,134	804	310	9	1,123	84 62	72 17		

(4) And 65 ex-inoculators.

(5) And 48 ditto.

(6) And 1 ex-inoculator

and age of primary vaccinations

STATISTICAL STATEMENTS

TABLE

[illegible]

(1) And 145 inoculators

(2) And 145 incubators

(2) And 145 inoculators (3) And 10 inoculators
* Included under sex, caste, and age of primary vaccinations

(3) And 10 insulators

(4) And 44 inoculators

TABLE No. VI

Vaccine Census

LOCALITIES		Class of persons examined	Number examined	Inoculated	Per cent of total examined	Vaccinated	Per cent of total examined	Had small pox	Per cent of total examined	Unprotected	Per cent of total examined
District	Place										
Burdwan	Burdwan (Chuckdighree)	Prisoners	977	705	73.74	19	1.99	179	18.73	51	5.54
		Dispensary patients	300	2	0.67	182	70	8	9.08	45	17.31
	Jehannabad	Middle class	271	1	0.37	187	84.81			22	8.95
		Lower	4201	185	4.40	3900	92.82	26	0.62	87	2.08
Bankoora	Golan	Hindus	500	200	40	150	30	20	4	180	36
	Bankoora	Muslims	200	60	30	40	20	25	12.5	75	37.5
Beerbhoom	Beerbhoom	Prisoners	420	377	89.76	15	3.57	22	5.24	5	1.2
		Ditto	53	184	7.72	42	17.00	15	5.95	12	4.74
Hooghly	Hitanipore	School boys	607	108	35.27	139	27.53	24	4.75	174	34.48
	Hooghly	Ditto	73	41	56.16	16	21.92	1	1.37	16	20.55
Howrah	Howrah	Hindus	180	100	55.55	40	22.22	22	12.22	18	10
		Muslims	31	20	64.52	5	16.13	5	16.13	1	3.23
		Christians	79			78	92.40	1	1.27	5	6.35
		Hindus	4470	1410	31.54	2872	64.54	55	1.23	433	9.69
24 Pargunnahs	Akarpura	Muslims	145	804	38.49	874	74.42	7	4.6	6	4.19
		Villagers	658	387	58.81	179	27.20	11	1.67	61	12.31
		School boys	213	14	6.57	130	61.03	11	5.16	8	3.76
		Dispensary patients	239	14	5.86	95	41.48				
Nudda	Baraact	School boys	124	22	17.74	88	70.96	9	7.26	5	4.08
		Prisoners	522	217	41.57	110	21.1	5	1.51		
		Dispensary patients	4581	2450	53.47	1223	26.69	469	10.27	410	8.95
	Huskerhat	Higher class	28	6	21.43	15	53.57	4	14.29	3	10.71
Jessorc		Middle	75	13	17.33	28	50.91	8	10.66	6	8
		Lower	104	19	18.27	41	39.42	10	9.61	34	32.70
	Kishnaghar	Dispensary patients	4418	216	4.87	1630	36.91	107	4.46	424	9.6
	Machra	School boys	100	45	45	49	49	5	5	3	3
Moorshedabad	Shridhujur	Villagers	50	26	52	24	48				
	Berhampur	School boys	50	47	94	2	4			1	2
	Moorshedabad	Ditto	35	186	53.14	118	33.71	23	6.57	23	6.57
		Ditto	250	76	30.4	97	38.8	79	31.6	18	7.2
Maldah	Jungipra	Students	241	85	35.27	116	48.13	12	4.98	28	11.61
		Prisoners	63	52	82.54	1	1.58	8	12.69	2	3.17
		Villagers	65	48	73.85	19	29.23	3	4.61		
	Kandi	Hindus	520	274	52.7	80	15.38	40	7.69	181	34.85
Maldah	Azimnagar	School boys	150	42	28	32.70	40	26.67	26	17.33	
		Prisoners	817	618	75.64	44	5.38	97	11.87	88	10.76
		School boys	209	115	55.02	35	17.24	15	7.19	22	10.53
		Dispensary patients	4717	1710	36.25	361	7.65	573	11.99	314	6.65
Rayshahy		Middle class	2	103	51.5	74	37.08	19	9.54	50	25.0
		Lower	1	2	200					1	100
	Baulea	Prisoners	1000	717	71.7	44	4.38	60	6	184	18.4
		Middle class	204	24	11.77	126	61.76			55	26.96
Rangpur	Kurruchincia	Prisoners	81	18	22.22	2	2.47			6	7.41
		Middle class	264	24	9.09	126	47.73				
		Lower	81	18	22.22	2	2.47			6	7.41
		School boys	281	68	24.2	199	70.82	8	2.85	11	3.92
Rangpur	Mahungunge	Prisoners	104	219	54.21	149	38.88	91	8.41	2	49
		Market people	2	144	72	877	26.17	401	18.12	430	21.77
		School boys	180	61	33.89	73	37.86	7	3.89	19	10.56
		Dispensary patients	500	307	61.4	18	3.6	24	4.8	50	10
Rangpur	Ulipore	Villagers	4	100	25	4	100	31	7.75	65	16.25
		School boys	7	3	42.86	4	57.14	6	85.71		
	Shobanungunge	Market people	918	513	55.81	17	1.86	86	9.37	240	26.15
		Dispensary patients	611	1563	71.7	106	4.05	144	5.61	408	19.07
Battashin		Prisoners	350	13	3.71	213	60.85			2	0.57
		School boys	110	4	3.64	124	11.27	2	1.82		
		Villagers	750	50	6.67	201	26.8	7	0.93	5	0.67
		School boys	25	16	64					9	36
Tooshbunda		Market people	200	170	85			15	7.5	35	17.5
		Dispensary patients	24	70	29.17					12	50
		Villagers	1200	400	33.33			160	13.33	650	54.17
		Hindus	192	80	41.67	18	9.38	10	5.21	24	12.5
Dumra		Muslims	74	22	29.73	8	10.81	39	52.63	6	8.11
		Villagers	240	70	29.17	103	42.91	42	17.5	90	37.5
		School boys	208	78	37.5	102	49.04	7	3.37	21	10.09
		Prisoners	231	181	78.35	31	13.42	0	0	7	3.03
Hogra		Dispensary patients	1024	813	79.49	124	12.1	31	3.03	14	1.37
	Nowkhilla	Prisoners	60	25	41.67	35	58.33	6	10	4	6.67
	Pubna	Prisoners	17	152	89.37			13	7.59	7	4.07
		School boys	172	120	69.77	24	13.95	4	2.32	24	13.95
Tubna	Doolai	Population	114	77	67.54	4	3.51	17	14.91	10	8.77
	Serajungunge	School boys	107	64	59.81	3	2.80	24	22.43	16	14.95
		Prisoners	117	95	81.2	37	31.62	42	35.9	1	0.85
		School boys	173	71	40.46	32	18.5	47	27.17	13	7.51
Pooree	Balasore	Prisoners	111	91	81.98	1	0.9	16	14.41	1	0.9
	Dacca	Ditto	144	63	43.75	55	38.2	122	84.72	201	140.28
		School boys	100	3007	30.07	73	7.3	128	12.8	148	14.8
		Prisoners	147	240	163.27	186	126.2	12	8.2	21	14.3
Mymensingh	Furcedjore	Prisoners	147	147	100	6	4.1	118	11.27	375	35.11
		School boys	23	168	72.9	17	7.46	14	6.1	10	4.35
		Dispensary patients	250	225	90	3	1.2	1	0.4		
		School boys	16	7	43.75	9	56.25				
Nonkhilly	Comillah	School boys	224	147	65.62	62	27.67	7	3.12	8	3.57
		Prisoners	21	21	100						
		Dispensary patients	23	23	100						
		School boys	209	231	110.53	11	5.26	7	3.35	20	9.57
Patna		Dispensary patients	0.012	4.665	77.92	581	93.33	805	100.0	161	20.0
	Barri	School boys	69	60	87.1	5	7.25	6	8.69	2	2.9
		Prisoners	0	5	55.56			3	33.33	1	11.11
		School boys	368	178	48.37	23	6.25	13	3.53	22	6.0
Gya		Dispensary patients	2779	1490	53.61	80	2.88	110	3.96	400	14.4
		Prisoners	1567	608	38.86	19	1.21	403	25.71	480	30.68
		School boys	1752	623	35.84	48	2.73	853	48.68	31	1.76
		Hindus	130	95	73.08	18	13.84	5	3.84	12	9.23
Shahabad	Sasceram	Muslims	175	100	57.14	13	7.43	5	2.86	53	30.29
	Rhubbooh	Population	65			65	100				
	Doomra	Ditto	900	145	16.11	40	4.44	70	7.78	45	5

TABLE No VI—concluded

LOCALITIES		(Class of persons examined)	Number examined	Inoculated	Per cent of total examined	Vaccinated	Per cent of total examined	Had small pox	Per cent of total examined	Unprotected	Per cent of total examined
District	Place										
Birhoat	Mosufferpore	Dispensary patients	5 610	4 021	71.67	630	11.23	430	7.66	520	9.43
	Hajeeopore	Population	7 001	4 911	70.14	31	0.44	2 005	28.64	54	0.77
Durbhunga	Duri hunga	Dispensary patients	910	733	79.78	32	3.48	102	11.10	52	5.67
	Tajore	School boys	68	44	64.67	5	7.57	14	21.21	3	4.54
Chupra	Chupra	Population	118	65	55.08	44	28.81	9	7.63	10	8.47
	Hutwa	Hindus	99	40	40.40	2	2.02	32	32.32	25	25.25
Barun	Bhor	Musulmans	33	9	27.27	2	6.06	13	30.30	9	27.27
		Hindus	278	25	8.99			238	85.61	15	5.39
Chumparun	Motharce	Musulmans	55	2	3.63			49	89.09	4	7.27
		Prisoners	250	97	38.8	63	25.2	79	31.6	11	4.4
		School boys	106	64	60.38	10	9.42	23	21.7	9	8.5
		Dispensary patients	1 190	597	49.79	178	14.84	350	29.19	74	6.17
Monghyr	Monghyr	School boys	210	140	66.66	40	19.05	26	12.38	4	1.91
		Prisoners	342	174	50.87	12	3.51	98	28.07	60	17.55
		Police force	88	82	93.18	1	1.13	5	5.68		
		Population	1 000	680	68	178	17.8	80	8	2	0.2
	Beagoosera	Ditto	1 018	534	52.45	48	4.71	327	32.12	100	10.71
	Khurruckpore	Students	378	236	62.43	50	13.2	88	22.75	6	1.58
Bhagulpore	Bhagulpore	Christians	6			6	100				
	Mudhevpore	Hindus	1 201	684	56.95	408	41.46	9	7.4	10	8.3
		Musulmans	299	199	66.55	85	28.43	11	3.67	4	1.34
		School boys	30	19	63.33			4	13.33	7	23.33
	Toolsia	Villagers	75	48	64	5	6.66	11	14.66	11	14.66
		Dispensary patients	66	43	65.15	3	4.54	8	12.12	12	18.18
	bonbursa	Hindus	930	410	43.99			275	29.57	45	4.83
		Musulmans	310	145	46.8	74	4.47	110	35.5	55	17.7
Furneah	Furneah	Prisoners	1 054	1 009	94.63	74	4.47	40	24.61	164	6.28
		Dispensary patients	2 463	1 814	72.79	74	2.97	362	14.51	243	9.74
		School boys	158	102	64.55	21	13.9	26	16.45	0	
		Prisoners	69	607	88.11	12	1.54	34	14.2	3	7.28
Santal Per gunnaha	Doomka	Villagers	617	406	65.80			6	0.97		
	Ditto	Ditto	111	50	45.04	43	38.74	18	16.21		
	Rajmelal	Prisoners	300	161	52.10	12	4.0	130	44		
	Goddal	Population	1 114	375	33.66	624	56.01	94	8.44	21	1.88
Daijeeling	Darjeeling	Ditto	1 203	79	6.57	270	22.40	97	12.1	138	11.47
	Phansidewa	Prisoners	815	787	96.56	13	1.68	118	15.18	1	0.12
Lohardugga	Banchee	Ditto	146	61	41.77	10	6.85	4	2.74		
	Palamow	Police force	7	14	200.00	5	71.43	8	29.63		
Singbhoom	Chyebassa	Population	3 340	761	22.74	475	14.19	1 893	41.63	717	21.42
		Dispensary patients	1 380	820	59.42	262	18.85	103	7.46	90	6.52
		Prisoners	189	138	73.01	7	3.7	20	10.58	24	12.7

TABLE No VII

Statement showing the registered Mortality from Small-pox in the districts of the Bengal Provinces during each month of the year 1876.

Number	DISTRICTS	Population	DEATHS DURING -												Total deaths from small-pox in the year 1876	Ratio per 1000 of population
			January	February	March	April	May	June	July	August	September	October	November	December		
1	Burdwan	20 90 715	3	2	12	6	2	1	2		2	5	6	4	15	0.7
2	Bankura	7 10 803					1	1	1						4	0.1
3	Barrackpore	6 15 121	4	13	15	21	15	9	9	7	2	2	3	1	115	1.0
4	Medinipur	2 45 170	41	117	153	111	74	40	44	31	15	16	12	30	729	2.8
5	Hoochly	3 61 295	12	14	22	4	4	1	1		1	1	1	6	77	0.8
6	Berhampore	3 09 804	8	2	4	6	2	1	1						20	0.6
7	Hewari	7 31 057	1	3	6	8	6	8	5	7			3	1	50	0.7
8	Chittagong	18 51 137	6	13	15	20	1	7	7		11	13	1	15	131	0.6
9	Nadwa	18 1 195	1	1	5	6	12	2	3	3	5	5	14	10	76	0.4
10	Teoga	20 75 021	1	8	9	18	8	1	1		8	1	6	8	64	0.3
11	Moorsheadabad	13 73 626		1	12	44	18	8	11	1	3	1	11	6	118	0.6
12	Dumra	15 01 924				11	17	5	3		8	2		2	5	0.3
13	Maldah	6 70 126		1	4	11	18	16	16	1	1				72	1.0
14	Rajshahi	13 10 729	14	7		15	4	1	1		2	3	10	1	96	0.5
15	Rangpur	21 45 072				1	1	1	1		1	1			19	0.08
16	Bogra	6 89 467			1	1									2	0.00
17	Fabian	12 11 714	4	6	10	17	3	10	22	3	2	3	3	7	145	1.1
18	Darjeeling	94 712	6	12	1	1	4				1	1	1		27	0.2
19	Julia	4 18 000			2										4	0.1
20	Dacca	18 53 897	3	8	13	6	14	10	12	1	3		2	3	74	0.4
21	Barisal	1 17 891	13	11	11	7	4	3	3						96	0.5
22	Backergunge	18 75 201	6	13	6	16	10	7	18	9	5	12	7	14	175	0.3
23	Mymensing	23 37 109	3	9	70	184	170	145	110	67	10	13	20	34	903	3.8
24	Lupat	14 10 200	4	10	2	13	3								35	0.2
25	Chittagong	10 43 282	17	4	80	8	40	16	12	8				12	352	1.1
26	Nouabully	11 715	22	6	50	6	30	17	32	1	6	10	7	6	289	2.2
27	Patna	17 50 638	11	100	241	275	215	141	9	3	12	12	14	42	1 203	7.7
28	Cuma	10 17 500	3	22	58	90	80	7	35	12	104	2	13	10	609	3.1
29	Shahabad	17 34 174	7		8	38	44	8		12	16	16	1	8	141	1.0
30	Moulvibazar	21 88 382	5	18	101	100	93	40	21	1	1	1	1	7	433	1.9
31	Darbhanga	21 06 644	4	18	70	90	14	14	3	8	3	9	9	101	89	1.8
32	Saran	26 63 860	1	14	11	48	27	34	21	14	15	5		2	244	1.1
33	Chhapra	14 10 515	1	2	27	30	31	31	13	4	1			1	190	1.3
34	Munshy	18 12 980	1	32	10	18	13	101	74	20	17	12	10	102	797	4.8
35	Bankura	18 2 390	6	8	11	11	4	15	17	25	8	8	5	21	341	2.0
36	Chittagong	17 14 71	2	13	30	15	7	14	15	10	11	6	7	15	328	2.6
37	Chittagong	17 14 71	2	13	30	15	7	14	15	10	11	6	7	15	328	2.6
38	Cuttack	14 03 784	97	2	107	103	5	16	10	10	10	9	5	8	277	2.1
39	Cuttack	7 23 74	18	38	1	14	14	4	11	9	2	2	15	11	184	2.4
40	Balasore	7 20 232	38	49	40	25	20	6	11	4	1			13	218	2.8
41	Haridwar	11 57 6		1	3	14	8			1					12	0.4
42	Haridwar	11 57 123	5	10	6	11	107	77	42	20	21	13	2	5	705	3.0
43	Shahdol	4 06 67		2	6	1	5		1	10	7	1		2	75	0.5
44	Manikpur	10 27 50	1		4	1	14		3	3	4				37	0.4
45	Subdivisions of Calcutta	2 08 910	21	31	31	23	16	3	1	3	3	2		1	152	5.8
Grand total for the province		2 08 910	437	987	1 622	1 672	1 116	521	407	407	220	201	173	10 746	17	
Ratio per 1000 of population			0.07	0.1	0.2	0.2	0.1	0.1	0.06	0.07	0.03	0.04	0.03			

GEO ALEXANDER HONGI, Head Clerk,
For Offg. Sanitary Commissioner for Bengal, on tour

MEDICAL.

CALCUTTA, THE 2ND JANUARY 1878.

RESOLUTION.

READ—

The Report by the Surgeon-General, Indian Medical Department, on vaccination in the province of Bengal during the year 1876-77.

Read again—

The Report for 1875-76, with the orders of Government thereon.

THE report now submitted shows that the progress of vaccination during the past year was more extensive and satisfactory than in the previous year. The total number of vaccinations performed during 1876-77, including re-vaccinations, is reported to have been 1,509,034, against 1,086,373 in 1875-76. The increase is very marked and encouraging. In all the circles, excepting Calcutta, there was an increase in the amount of work performed. It was largest in the Darjeeling circle, in which the number of operations performed was greater by 193,313 than in the previous year. It is stated that the number of vaccinations performed in this and the Metropolitan circles exceeded the estimated birth-rate of the respective circles. In the Ranchee and Eastern Bengal circles, which showed a falling off during 1875-76, the outturn of the past year exceeded that of any of the four previous years, and it is noteworthy that in the Ranchee circle this result was obtained with a diminution in the actual amount of expenditure. An increase is also shown in dispensary vaccinations. In the Calcutta circle, the number vaccinated during 1876-77 was less by 2,701 than in the previous year. The greater portion of this decrease is accounted for by a falling off in emigration, and consequent decrease in the emigrant population of the town and its suburbs, and by the prevalence of an epidemic of measles during the months of February and March, the season which the better classes of natives prefer for vaccination.

2. The total number of successful operations performed during the past year is shown to have been 1,458,286. This gives a percentage of 96·6 on the total number of vaccinations, against 93·01 in the preceding year, and 92·37 in 1874-75. In primary vaccinations the ratio of successful cases was 98·18 per cent., against 97·2 per cent. in 1875-76, and 96·53 per cent. in 1874-75. In re-vaccinations the percentage was 20·68 against 21·49 in 1875-76, but success in these operations is to a great extent uncertain. It is satisfactory to notice that, while in the Calcutta, Metropolitan, and Eastern Bengal circles the rate of success in primary vaccinations remained quite as high as in any previous year and exceeded 99 per cent., there was also a great improvement in the character of the work performed by the remaining circles and by the dispensaries, and that in the year under review the ratio per cent. of successful cases in primary vaccinations was nowhere less than 90·6. It is reported that the percentage in the whole of the Metropolitan circles was 99·82, and among the cases personally inspected and verified by the Superintendent 99·89. The corresponding rates in the Darjeeling circle are stated to have been 99·04 and 98·86 per cent.; in the Ranchee circle 90·6 and 87·26 per cent.; in the Sonthal Pergunnahs circle 99·36 and 98·94 per cent.; in the Eastern Bengal circle 99·78 and 96·29 per cent., and in the Orissa circle 98·92 and 99·11 per cent. respectively. In the Behar circle 97·51 per cent. of the total number of operations performed are reported to have been successful. The proportion of successful cases was highest in the Calcutta circle, where it reached 99·9 per cent.

3. The Lieutenant-Governor observes that, while in the Calcutta circle the number of re-vaccinations have for some years past exceeded the number of primary vaccinations, very few re-vaccinations have been performed in the other circles. The reason for this is obvious in the case of the circles which have been recently established, but it is not understood why in the Metropolitan circles, in which several thanas in the south of the 24-Pergunnahs appear to

have been gone over for the *third* time during the past year, only five re-vaccinations were performed, against 521,945 primary vaccinations. To protect any tract of country efficiently, it is necessary not only to vaccinate those who were neither inoculated nor had small-pox before, but also to repeat the operation periodically on vaccinated persons.

4. During the past year the Superintendents generally performed a larger amount of inspecting work than in the previous year. The largest number of inspections were made by Dr. Lidderdale, Superintendent of the Darjeeling circle, who succeeded in verifying 54,345 cases. The Superintendent of the Metropolitan circle, however, inspected only 41,442 cases, against 46,500 in 1875-76. Mr. Lyons, the Superintendent of the Eastern Bengal circle, is reported not to have inspected at all the work of the party detached from his establishment for duty in a part of the Dacca district. As remarked by the Surgeon-General, he ought certainly to have visited the party in question once or twice during the season, instead of leaving the supervision entirely in the hands of the Deputy Superintendent, who is merely a head vaccinator. It is stated that, in the Calcutta circle, Dr. Charles was once dissatisfied with the result of his inspection and had to comment on the character of the virus, and that since then his establishment paid more attention to their work. This clearly shows how necessary it is to maintain a close and constant supervision over the vaccinating staff, and the Lieutenant-Governor desires that the Surgeon-General will impress upon the Superintendents the great importance of their inspecting duty, and that their success depends in a great measure upon frequent and careful inspection of the work of their subordinates.

5. The question of granting some travelling allowance to Mr. Lyons should be submitted separately for the orders of Government, with a clear statement of his case.

6. Of the 1,509,034 persons vaccinated during the past year, the sex, caste, and age of more than 1,147,700 were registered. Of these, it is reported 52.5 per cent. were males and 47.5 females; 50.4 per cent. were Hindus, 45.5 per cent. Mussulmans, .18 per cent. Christians, and 3.8 per cent. "other castes;" 7.2 per cent. under one year of age, and 92.8 per cent. above that age. The proportions of females and Christians were the same, and of infants and "other castes" nearly the same, as in 1875-76. There was, however, a rather marked decrease in the proportion of the Hindus, and a corresponding increase in that of the Mussulmans. This increase is probably due to the large increase in the number of vaccinations in the Darjeeling and Eastern Bengal circles, in which the population is largely Mahomedan.

7. The total cost of vaccination during the past year is reported to have been Rs. 1,18,731, against Rs. 1,05,800 in the previous year. The increase is attributed to the maintenance throughout the year of the newly-established Orissa and Behar circles, which were in existence for only three months in 1875-76, and to the extension of self-supporting vaccination. The portion of the cost borne by Government amounted to Rs. 1,07,657; the remainder was defrayed from municipal and other local funds. The comparatively small amount of work done by municipal and dispensary vaccinators, and the smallness of the sums devoted by municipalities for vaccination purposes during 1875-76, were noticed in the resolution on the report for that year. From the figures given in table C of the present report, it appears that during the past year there was a slight increase in the number of operations performed, but still the results can hardly be considered satisfactory. The total amount paid by municipal and local funds during the past year (Rs. 11,074) was also a little in excess of that (Rs. 9,171) contributed in 1875-76, but the proportion of cost borne by Government remained as high as in previous years, viz. 90 per cent. of the whole.

8. Some additions appear to have been made during the past year to the staff of vaccinators attached to the circles. The number of ex-inoculators or independent vaccinators also increased by 490. The establishment attached to the Sonthal Pergunnahs circle was reorganized. In the Darjeeling circle, three Native Superintendents and some vaccinators from the Metropolitan circle were employed for the purpose of teaching the old establishment the use of the lancet. The unusual success in this circle during the past year is attributed

by Dr. Lidderdale to the introduction of vaccination by lancets instead of by needles, and to the healthy competition which sprung up between the old and new men. It is desirable that lancets should be brought into use in all circles where vaccination is now performed by needles.

9. In all the circles, excepting Calcutta, the average number of operations performed by each vaccinator during the past year was larger than in 1875-76. As in previous years, it was largest in the Metropolitan circle, in which 5,117 operations were on an average performed by each man. In the Calcutta circle there was a falling off in the average, owing, it is said, to decrease of work.

10. The average cost of each successful case was one anna and three pies, against one anna and ten pies in the preceding year. There was a diminution in the average cost in every circle, excepting Calcutta and Behar, which show an increase. The increase in Calcutta is attributed to falling off of work; that in the Behar circle has not been satisfactorily accounted for.

11. The Lieutenant-Governor is glad to learn that in several of the circles the people are now more favourably disposed towards vaccination than formerly, and that in the Metropolitan circle they frequently ask and pay for the services of vaccinators. The objection of the people to virus being taken from the arms of children is still a general complaint. It is hoped, however, that all opposition will gradually die out in course of time. In the Orissa and Ranchee circles, the Superintendents had to encounter great difficulties, owing to the ignorance and prejudice of the people. Dr. Roy, Superintendent of the latter circle, displayed great resolution in introducing vaccination, under very adverse circumstances, into the Palanow sub-division, where a previous attempt made by his predecessor had failed, and the success ultimately achieved by him is very satisfactory. The Lieutenant Governor regrets to find that Dr. Roy had reason to complain of the indifference of some of the civil officers. On the other hand, Major Walcott and Mr. Roberts are reported to have rendered him great assistance. Commissioners of Divisions will be requested to instruct local officers to afford every assistance in their power to the officers of the vaccine department. The Rajah of Sonepoorah and the zemindars of Chinpore and Ontaree, and Baboos Hurry Mohun Thacoore and Soorjee Narain Sing, zemindars of the Bhagulpore district, are said to have exerted their influence to promote vaccination.

12. In most of the districts in which vaccination on the self-supporting system was carried on during the past year, the results were unsatisfactory. In Bankoora the number of vaccinations fell off, owing to the absence of Dr. Conolly, to whose great personal exertions and unflagging interest in the work the success of previous years was mainly due. In Midnapore, though a larger number of operations were performed than in the previous year, there was little European supervision. In Bhagulpore and Monghyr also the supervision was nominal. Altogether more than 257,500 vaccinations are reported to have been performed by ex-inoculators and other independent practitioners, at a cost of Rs. 3,895 to Government, or about three pies per case; but, as remarked by the Surgeon-General, little reliance can be placed on the quality of the work. Dr. Beatson is of opinion that civil surgeons cannot reasonably be expected to train and license independent vaccinators and exercise a thorough supervision over their proceedings, in addition to the many important duties they have at present to perform. The Lieutenant-Governor is convinced that, while civil surgeons, if really anxious to promote vaccination, can accomplish much in that direction by the agency of ex-inoculators and others, it is not safe to allow vaccination by such agency to be carried on without sufficient control and supervision, as it has hitherto been in some districts. He has therefore directed the discontinuance of the system from the present season, and extended the circle system to the districts of Singbhoom, Manbhoom, Midnapore, Bankoora, Beerbhoom, Bhagulpore, Monghyr, Purneah, Maldah, and Moorsshedabad. In the four districts first named, no expense will be incurred on account of paid vaccinators, as the self-supporting staff which has up to the present worked under the civil surgeons will suffice. There will thus be a compact block under circle management, comprising the whole of the Bhagulpore, Burdwan, and Presidency Divisions, the whole of the Chota

Magdore and Rajshahye Divisions, with the exception of Hazareebagh and Purnea, and parts of the Dacca and Orissa Divisions.

13. In the resolution on the Report for the year 1875-76, it was remarked that the circle establishments should be withdrawn from districts thoroughly protected by them, in order that they might take up fresh tracts, and that civil surgeons should be held responsible for organizing establishments of independent vaccinators with a view to maintain vaccination in the protected areas. The Government of India, however, took exception to this proposed change of policy. Mr. Eden is disposed to think that, for a long time to come, it would be very unsafe to do away with the special inspection agency, though it will doubtless be found possible to replace the paid vaccinators by licensed practitioners working on their own account. The subject is still under the consideration of this Government.

14. The Surgeon-General states that there was a great diminution in small-pox during the past year as compared with 1875. The recorded number of deaths from this disease during 1876, however, was more than double that of the previous year. In some instances the outbreak of small-pox was traced to the practice of inoculation. It is observed that inoculation is still surreptitiously practised in some districts where it has been prohibited by law. The Magistrates should instruct the police to be on the alert to put a stop to such practices.

15. It appears that there was some difficulty and delay in commencing operations in the Ranchee and Orissa circles in the past season, owing to the failure of the lymph supplied from Calcutta. Hitherto Dr. Charles' attempts to preserve vaccine lymph have not been attended with complete success, and owing to difficulties in obtaining and storing up lymph, Dr. Lidderdale expresses his inability to supply it to all parts of Bengal. Under these circumstances, it seems desirable that, as far as practicable, attempts should be made in all circles to keep up a local supply of virus by continuing vaccinations during the recess.

ORDER.—Ordered that a copy of the above Resolution be forwarded to the Surgeon-General, Indian Medical Department, and to the Commissioners of all divisions, except Chittagong, for information and guidance.

Ordered also that a copy of the above Resolution, together with a copy of the Report for 1876-77, be submitted to the Government of India, in the Home Department, for information.

By order of the Lieutenant-Governor of Bengal,

HORACE A. COCKERELL,

Offg. Secretary to the Govt. of Bengal.

No. 105.

Copy forwarded to the Surgeon-General, Indian Medical Department, for information and guidance.

No. 106.

Copy forwarded to the Commissioners of all Divisions, except Chittagong, for information and guidance, and for communication to the Magistrates of their respective divisions.

By order of the Lieutenant-Governor of Bengal,

COLMAN MACAULAY,

Under-Secretary to the Govt. of Bengal.

CALCUTTA,
The 2nd January 1878.

